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DYNAMAC CORPORATION
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3.4
Subject:

June 14, 1993

Ms. Cheryl Smith
U.S. EPA Region IV
345 Courtland Street, N.E.
Atlanta, Georgia 30365

Re: Work Assignment No. C04054 - Olin Corporation, McIntosh, Alabama - Field Oversight Report, Volume I
Document Control No. C04054-OC-LC-015

Dear Ms. Smith:

In partial fulfillment of Work Assignment No. C04054, Dynamac Corporation is pleased to submit two copies of Volume I of the Field Oversight Report, which PRC Environmental Management, Inc. (PRC) prepared describing work at the Olin Corporation, McIntosh, Alabama, site. PRC will deliver Volume II, the photographic log, directly to you on June 14, 1993.

If you have any questions or comments, please contact Bob Martin or me at (404) 681-0933.

Sincerely,

DYNAMAC CORPORATION

David L. Rusher
Regional Manager

DLR/mcc

cc: Ken Meyer, EPA Region IV Project Officer
Dennis Escher, Dynamac TES Program Manager
Robert L. Martin, Dynamac Work Assignment Manager
TES WA File

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REMEDIAL INVESTIGATION/FEASIBILITY STUDY
FIELD OVERSIGHT REPORT
OLIN CORPORATION
McINTOSH, ALABAMA

VOLUME I OF II

TES VIII

Prepared for

U.S. ENVIRONMENTAL PROTECTION AGENCY HEADQUARTERS

Work Assignment No.	:	C04054
Site No.	:	ALD008188708
EPA Region	:	4
Contract No.	:	68-W9-0005; TES VIII
Date Prepared	:	June 14, 1993
EPA Work Assignment Manager	:	Ms. Cheryl Smith
Telephone No.	:	(404) 347-2643
Contractor	:	Dynamac Corporation
Dynamac Subcontractor Monitor	:	Mr. Bob Martin
Telephone No.	:	(404) 681-0933
Dynamac Subcontractor	:	PRC Environmental Management, Inc.
PRC Work Assignment Manager	:	Ms. Rachel Cochran
Telephone No.	:	(404) 522-2867

Prepared by

DYNAMAC CORPORATION
Rockville, Maryland

3 4 0827

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1.0 INTRODUCTION

PRC performed oversight activities under Work Assignment No. C04054 of EPA Contract No. 68-W9-0005 (TES 8). Ms. Cheryl Smith, EPA Region 4 remedial project manager (RPM), was PRC's technical contact for the duration of field oversight activities. Ms. Smith was on leave from September 1991 to January 1992. During this time, PRC's EPA contact was Mr. Kenneth Lucas. The purpose of this report is to: (1) summarize the oversight activities performed by PRC Environmental Management, Inc. (PRC) personnel during the field activities of a Remedial Investigation/Feasibility Study (RI/FS) conducted at the Olin Corporation McIntosh Plant Site (Olin), McIntosh, Alabama; (2) discuss any deviations from the Woodward-Clyde Consultants Work Plan or problems encountered during field activities; and (3) present the split samples obtained by the oversight contractor the for U.S. Environmental Protection Agency (EPA) during the RI. Analytical data from the split samples has not been received by PRC from the EPA Environmental Services Division (ESD) laboratory.

Since the initiation of RI field activities in July 1991, three phases of field activities have been performed and completed. The draft Remedial Investigation Report prepared by Woodward-Clyde Consultants (Woodward-Clyde), a contractor to Olin, was submitted to EPA in April 1993. Additional field activities were conducted for the feasibility study in February 1993. These activities are discussed in Section 3.4. The draft Feasibility Study Report prepared by Woodward-Clyde was submitted to EPA in May 1993. PRC has provided EPA with technical review comments on both the draft RI and FS reports.

The RI/FS field activities were conducted by Woodward-Clyde. Olin also contracted Robert Fletcher Schell Engineering, Inc. to provide technical assistance for the surveying of sampling locations in Operable Unit 2 (OU-2). All subsurface drilling operations were conducted by Layne Environmental Services under contract to Woodward-Clyde.

The RI/FS field activities were conducted from July 1991 to September 1992. The following PRC personnel were present during the field activities:

T. Gary Benfield:	November 4 to November 8, 1991 November 12 to November 14, 1991 November 18 to November 22, 1991 August 29 to September 1, 1992
Rachel Cochran:	September 26 and 27, 1991 October 23, 1991 November 4 to November 8, 1991 November 11 to November 15, 1991 December 2, 1991 August 9 to August 20, 1992
Michael Jones:	July 6 to July 7, 1991
Patty Murphy:	September 30 to October 4, 1991
Shirleen Nurmi:	August 9 to August 20, 1992 August 31 to September 2, 1992
Steve Pierce:	September 1 to September 3, 1992
Bertrand Thomas:	July 22 to July 26, 1991 August 6 to August 14, 1991 August 19 to August 30, 1991 September 9 to September 18, 1991

The Woodward-Clyde project manager for the RI/FS was William Beal. The Woodward-Clyde field manager was Michael Schwartz. They were assisted by Woodward-Clyde staff who were working on a ten-day-on, four-day-off rotation schedule.

A meeting was held at Olin on July 6, 1991, before the initiation of field activities, to discuss field work to be conducted. The meeting representatives were: Cheryl Smith, EPA Region 4 RPM; Joe Downing, Alabama Department of Environmental Management (ADEM); Jim Brown, Olin Corporation, Charleston, Tennessee; Toni Odom, Olin Corporation, McIntosh, Alabama; William Beal, Woodward-Clyde's project manager; and Michael Jones, PRC regional manager. On July 23, 1991, Woodward-Clyde and PRC began field and oversight activities at the McIntosh Plant Site. Michael Jones was PRC's project manager for field

oversight from the beginning of field activities to January 1992, when Rachel Cochran assumed PRC's project management activities.

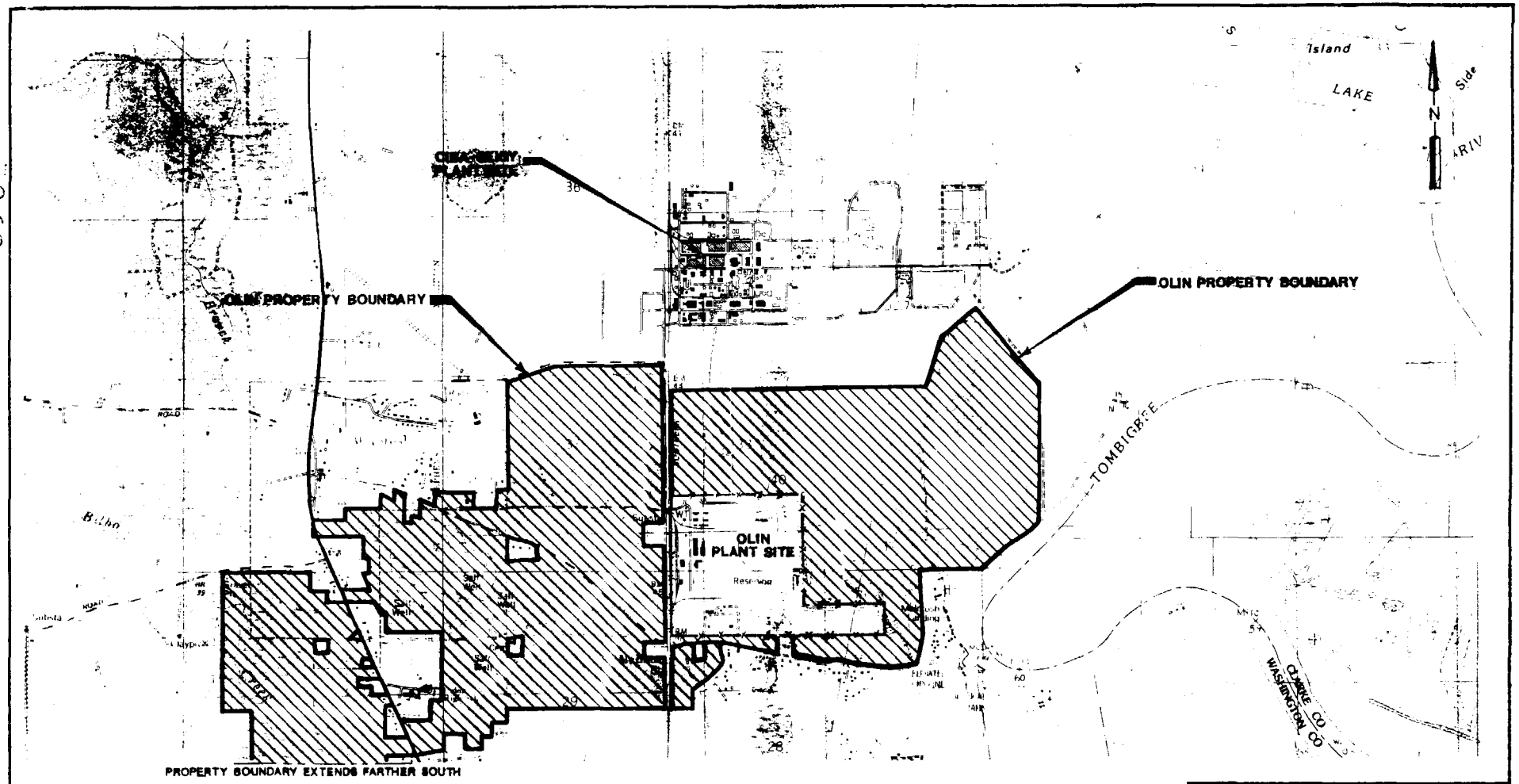
Volume I of this report contains Sections 1.0 through 4.0 and Appendices A and B. Volume I describes the field and oversight activities performed by Woodward-Clyde and PRC. Section 2.0 describes the site and its history. Section 3.0 summarizes Phase I, II, and III RI field activities and variances from the approved work plans that occurred during the RI. Section 4.0 provides a summary of the split samples obtained by PRC. Appendix A contains representative photographs of various field sampling activities. Appendix B contains copies of the chain of custody forms for all EPA split samples collected. Volume II presents the complete photographic log for all phases of field oversight.

2.0 SITE LOCATION AND HISTORY

Olin is located about one mile east-southeast of the town of McIntosh, Washington County, Alabama. The property is bounded on the east by the Tombigbee River, on the west by land located west of U.S. Highway 43 (not owned by Olin), on the north by the Ciba-Geigy Corporation plant site, and on the south by River Road. Figure 1 presents a site location map for Olin.

Olin operated a mercury cell chlor-alkali plant at the site from 1952 until December 1982. In 1954, Olin began construction of an organics plant that originally produced monochlorobenzene on an adjacent portion of the site. In 1956, a pentachloronitrobenzene (PCNB) plant was completed. In 1973, the organics plant expanded operations to produce trichloroacetonitrile (TCAN) and 5-ethoxy-3-trichloromethyl-1,2,4-thiadiazole (Terrazole). The PCNB, TCAN, and Terrazole manufacturing areas were referred to collectively as the Crop Protection Chemicals (CPC) plant. In 1978, Olin constructed a diaphragm cell chlor-alkali plant that is still in operation. In 1982, Olin ceased operations at the CPC and mercury cell plants. During 1982, the CPC plant was decommissioned and dismantled. The mercury cell plant was decommissioned and dismantled sometime between 1982 and 1986.

Active facilities at the McIntosh plant site currently include a diaphragm cell chlor-alkali production process area, a caustic soda concentration process area, a caustic soda process area, a hydrazine blending process area, shipping and transport facilities, process water storage, transport and treatment facilities, and support and office areas. Olin monitors and reports on several EPA and ADEM-permitted facilities. These permits include 17 air permits, one NPDES permit with 5 outfalls, one Resource Conservation and Recovery Act (RCRA) post-closure permit, one Class III injection well permit, and one Class V Underground Injection Control (UIC) well permit.



Source: Woodward-Clyde Consultants, 1992, Preliminary Site Characterization Summary Volume I of II, Remedial Investigation (RI)/ Feasibility Study (FS), McIntosh Plant Site Olin Corporation, McIntosh, Alabama (April).

RE: U.S.G.S. 7.5 MINUTE SERIES QUADRANGLE MAP, McINTOSH, ALABAMA, 1954 AND QUINHOUSE ISLAND, ALABAMA, 1954.

OLIN CHEMICAL CORPORATION
MCINTOSH PLANT SITE
MCINTOSH, ALABAMA

FIGURE 1

SITE LOCATION MAP

PRC ENVIRONMENTAL MANAGEMENT, INC.

In September of 1984, EPA placed Olin on the National Priorities List (NPL) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) after mercury and chloroform were detected in ground water at the site. From information obtained during various site investigations, it is believed that the mercury contamination in the ground water was caused by the operation of the mercury cell chlor-alkali plant from 1952 to 1982. It is also believed that the chloroform present in the ground water may be a degradation product of chemicals used for the formulation of fungicides that were produced at the CPC plant from 1954 to 1982.[1] Investigations have indicated that contamination exists in a 65-acre natural basin located east of the currently active plant facilities on the Olin property. This basin received wastewater discharge from the plant area from 1952 to 1974.

The Olin site has been divided into two distinct operable units for the RI field activities. The main plant area is designated as Operable Unit 1 (OU-1) and the 65-acre basin is designated as Operable Unit 2 (OU-2). Figure 2 presents the Olin facility and delineates the boundaries of the two operable units.

OU-1 contains closed, inactive, and active solid waste management units (SWMU) that are regulated under RCRA. A RCRA facility assessment (RFA) of OU-1 was conducted by EPA in May 1991. The resulting report listed 52 SWMUs and 6 areas of concern (AOC). Olin has conducted numerous closure and removal activities at the site in order to reduce or eliminate the potential for releases from the SWMUs. These activities included nine clean closures and one closure under 40 Code of Federal Regulations (CFR) Part 265 (See Table 1). There are 10 additional SWMUs that have been identified within OU-1 that are not regulated under 40 CFR Part 265.

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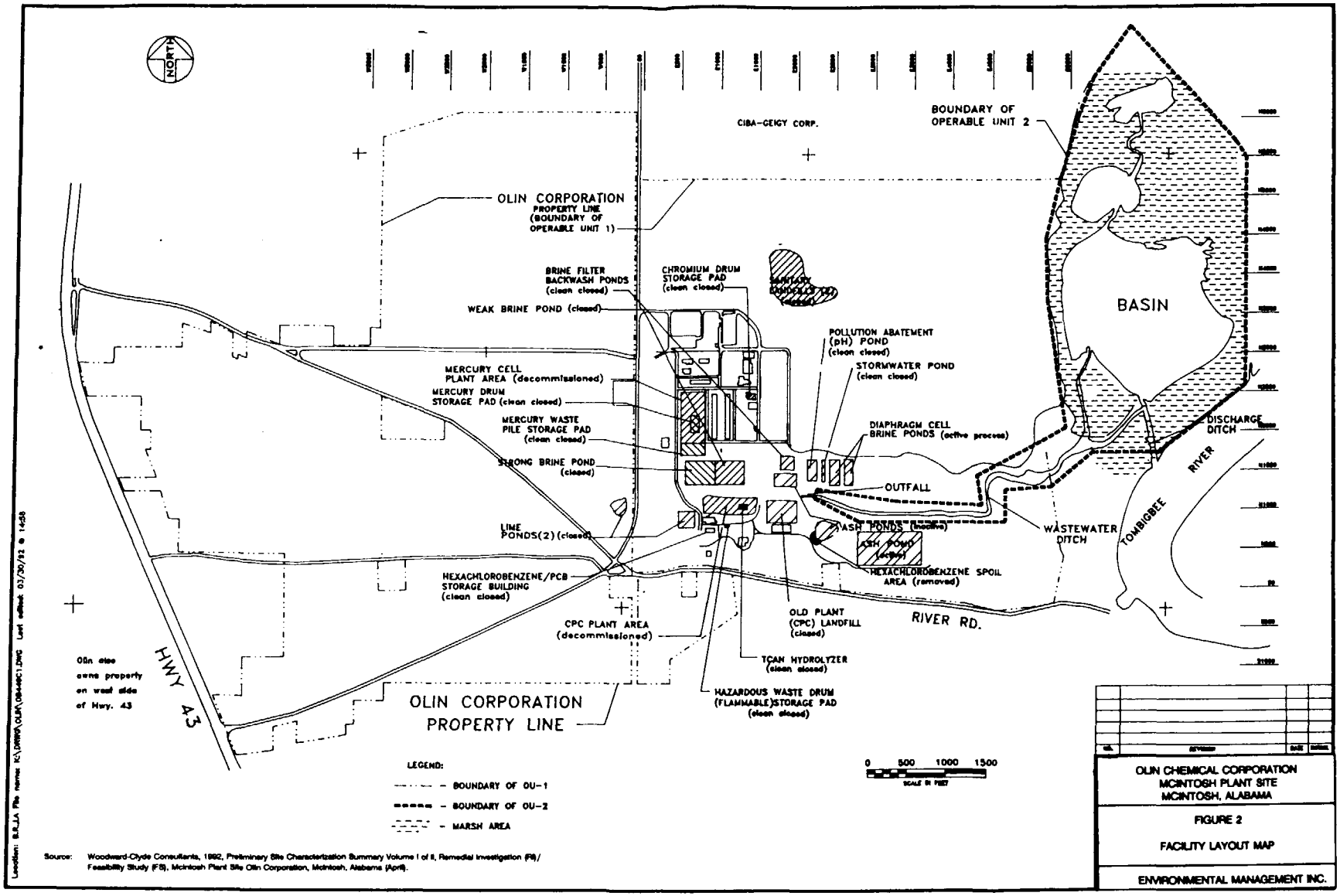
[1] Woodward-Clyde Consultants, 1992, Preliminary Site Characterization Summary, Volume I of II, Remedial Investigation (RI)/Feasibility Study (FS), McIntosh Plant Site Olin Corporation McIntosh, Alabama



Source: Woodward-Clyde Consultants, 1992, Preliminary Site Characterization Summary Volume I of II, Remedial Investigation (RI)/ Feasibility Study (FS), McIntosh Plant Site Olin Corporation, McIntosh, Alabama (April).

TABLE 1
SWMUS CLOSED OR CLEAN CLOSED UNDER 40 CFR 265

Name	Approval by ADEM	Approval by U.S. EPA
1. Stormwater Pond (clean closed)	May 1, 1986	April 28, 1986
2. Brine filter backwash pond (clean closed)	May 1, 1986	April 28, 1986
3. Pollution abatement (pH) pond (clean closed)	August 14, 1985	August 13, 1985
4. Weak brine pond (closed)	August 9, 1987	June 24, 1987
5. Mercury waste pile storage pad (clean closed)	March 12, 1985	(ADEM had Interim Status Authority)
6. TCAN hydrolyzer (clean closed)	March 21, 1984	(ADEM had Interim Status Authority)
7. Mercury drum storage pad (clean closed)	March 12, 1985	(ADEM had Interim Status Authority)
8. Chromium drum storage pad (clean closed)	February 25, 1986	March 31, 1986
9. PCB/Hexachloro-benzene storage building (clean closed)	February 25, 1986	March 31, 1986
10. Hazardous waste drum (flammable) storage pad (clean closed)	February 25, 1986	March 31, 1986

Source: Woodward-Clyde Consultants, Inc., 1992, Preliminary Site Characterization Summary Volume I of II, Remedial Investigation/Feasibility Study, McIntosh Plant Site Olin Corporation McIntosh, Alabama (April).

OU-2 consists of a 65-acre basin and wetlands within the the Tombigbee River floodplain and the former and present wastewater ditches leading to the basin. During seasonal high water levels, the basin is flooded with water and becomes contiguous with the Tombigbee River.

3.0 FIELD ACTIVITIES

The RI field activities conducted by Woodward-Clyde thus far have been implemented in three phases. Phase I was conducted from July to September 1991. Phase I field activities at OU-1 included the sampling of selected on-site ground-water monitoring, corrective-action, and production wells. The sampling served to determine any continual sources of ground-water contamination. The field activities at OU-2 included a bathymetric survey and the sampling of sediments and surface water from the basin, the outfall ditch that drains the plant site, the former discharge ditch that carried plant wastewater directly to the basin, and the basin ditch that presently connects the basin with the Tombigbee River.

Phase II field activities were conducted from September 26 through October 4, 1991 and from November 4 through November 21, 1991. The Phase II field activities at OU-2 included a vegetative stress survey, a benthic macroinvertebrate survey and sampling, fish sampling and sediment sampling. Ground-water samples from 42 off-site domestic wells were also collected during the Phase II field activities.

Phase III field activities were conducted from August to September 1992. The Phase III field activities at OU-1 included soil sampling and analysis from specified SWMUs and AOCs. Field activities at OU-2 included sediment sampling and analysis. During Phase III, Lake Hatchetigbee, a basin comparable to the Olin basin, was used for the collection of macroinvertebrate control and background sediment samples. Lake Hatchetigbee is located adjacent to the Tombigbee River, about 45 miles upriver from the Olin property.

3.1 PHASE I FIELD ACTIVITIES

Oversight was provided by PRC for Phase I RI field activities from July to September 1991. The purpose of Phase I was to determine the physical characteristics of the site, the characteristics of the source contaminants, and the nature and extent of the contamination. Field activities overseen by PRC included a

bathymetric survey and sediment sampling of OU-2 and collecting ground-water samples from corrective-action, monitoring, and production wells located at OU-1.

3.1.1 Bathymetric Survey

A bathymetric survey was conducted by Woodward-Clyde during Phase I to determine the size and the depth of the basin. This information was then used to develop the topography of the basin floor. The information obtained from the bathymetric survey was also used to aid interpretation of the depositional history of the basin. In addition to the bathymetric survey, the boundaries of the lake were surveyed, a 200-foot grid system of the lake was developed to identify future sediment sampling locations, and sediment samples from the bottom of the lake were collected.

A programmable electronic distance meter (EDM) was used to develop transects in both north-south and east-west orientations. The north-south transects were given an alphabetical prefix (A through K), and the east-west transects were given a numerical value (0 through 10). Buoys were then placed at the intersections of the N-S and the E-W transects to delineate future sampling locations.

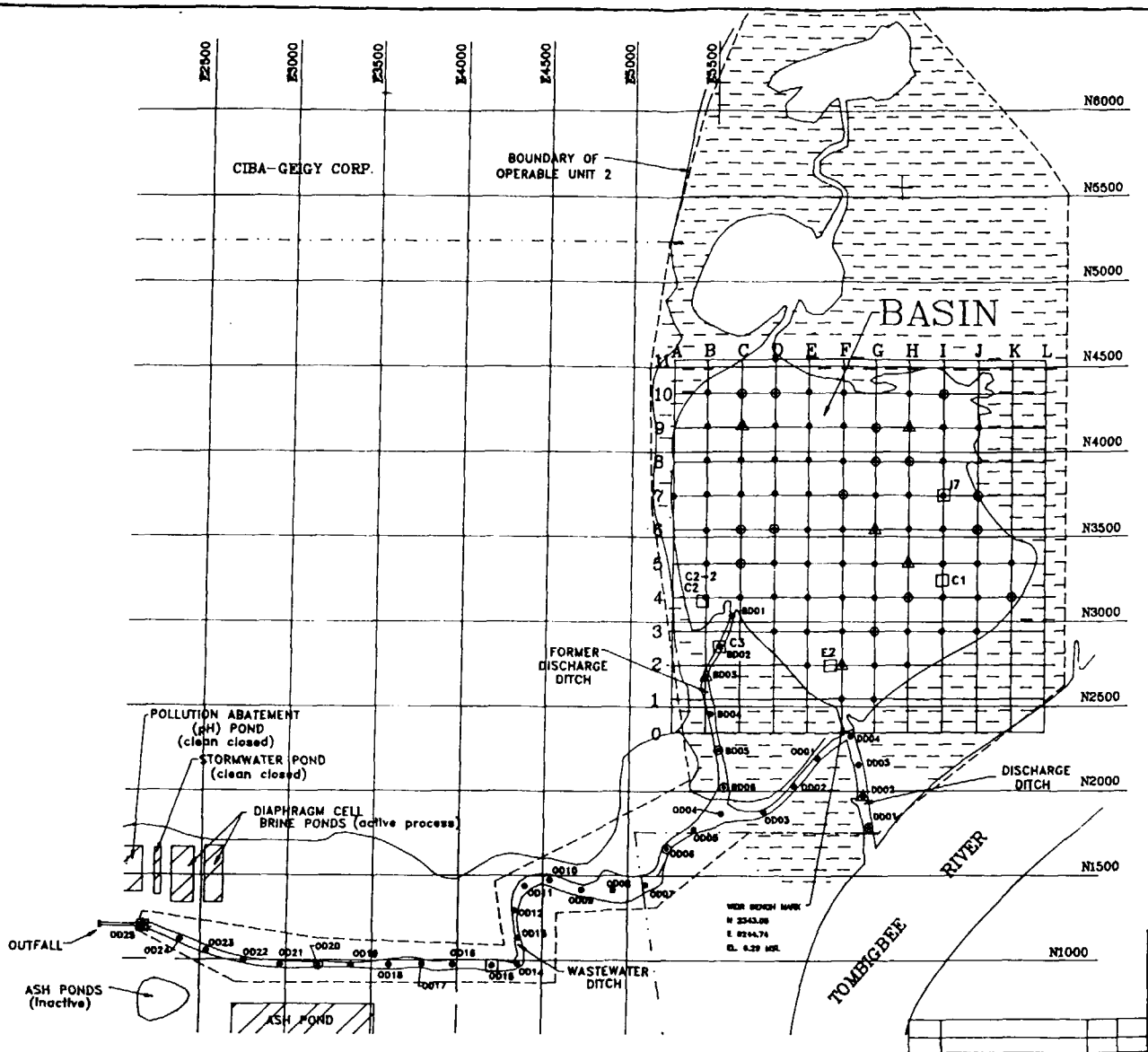
3.1.2 Sediment Sampling

Sediment samples were collected by Woodward-Clyde with an Ekman dredge from the top 4-to-6 inches of sediment present on the basin floor. The water depth, the position of the sampling location, and a description of the sediments were recorded at each sampling location. PRC used Woodward-Clyde's sample notation when obtaining split samples. For example: a sediment grab sample obtained from the basin ditch at sampling location number one would be noted as SGBD01 (see Table 2).

Sediment samples were also obtained by PRC from the outfall ditch, the former discharge ditch, and the basin ditch. These sampling locations were designated by Woodward-Clyde with the prefixes OD, DD, and BD for the outfall ditch, discharge ditch, and basin ditch, respectively. Identification of sampling locations consisted of placing flags every 200 feet along the median flow path of each of the ditches. Sediment sample collection began at the mouths of the basin ditch and the discharge ditch and followed the flagged median line upstream towards the beginning of the outfall ditch in the main plant area. Sediment sampling locations at OU-2 are presented in Figure 3.

In addition to the sampling of the three ditches, three subsurface sediment samples were collected by Woodward-Clyde using a Vibracore sampler mounted onto a boat to drive the stainless steel cylinders into the underlying sediment. Two of the samples were collected from the basin and one of the samples was collected from the discharge ditch. The locations of the Vibracore samples were based on the results of a previous sampling investigation conducted in 1987. A total of eleven EPA sediment split samples were obtained by PRC during the Phase I sampling activity at OU-2. A description of the EPA split samples obtained by PRC during Phase I are presented in Table 2.

Several deviations from the work plan occurred during the sediment sampling activities of Phase I. On August 7, 1991, Woodward-Clyde personnel collected sediment samples along transect 10 for mercury analysis only. The work plan indicated that target compound list (TCL) and target analyte list (TAL) analyses were to be conducted on the samples collected at locations C10 and D10. PRC personnel informed Woodward-Clyde personnel of the error and it was corrected by resampling line 10 the next day. On August 23, 1991, Woodward-Clyde personnel were informed by Federal Express that some of their coolers had been incorrectly shipped. The shipment involved four samples from the discharge ditch (SGDD01, 02, 04, and 06) and one sample from the outfall ditch (SGOD17). These locations were resampled by Woodward-Clyde personnel. In addition, Woodward-Clyde personnel were using the incorrect grade of isopropanol for the decontamination of sampling equipment. On August 28, Woodward-Clyde personnel corrected the problem by obtaining a



LEGEND

- △ SURFACE WATER GRAB CLP
- □ CORE SAMPLE LOCATIONS TAL MERCURY/ CLP/SPLIT SAMPLE
- ● SEDIMENT GRAB TAL MERCURY/SPLIT SAMPLE
- ◉ SEDIMENT GRAB CLP/SPLIT SAMPLE

Source: Woodward-Clyde Consultants, 1992, Preliminary Site Characterization Summary Volume I of II, Remedial Investigation (RI)/ Feasibility Study (FS), McIntosh Plant Site Olin Corporation, McIntosh, Alabama (April).

OLIN CHEMICAL CORPORATION
MCINTOSH PLANT SITE
MCINTOSH, ALABAMA

FIGURE 3

OU-2 SAMPLE LOCATION MAP

PRC ENVIRONMENTAL MANAGEMENT INC.

Table 2
Phase I Split Sample Summary
Olin Chemicals
RI/FS
Sheet 1 of 2

WCC Sample No.	PRC Split Sample No.	EPA Project No.	Date	Time	Location	Type of Media	Type of Analysis
SG-C5	C-5	91875	8/13/91	0926	In OU-2, approximately 500 feet north of the effluent ditch	Sediment	TCL[1] and TAL[2]
SG-G3	G-3	91875	8/13/91	1057	In OU-2, approximately 800 feet north of the weir	Sediment	"
SG-K4	K-4	91875	8/13/91	1017	In OU-2, approximately 100 feet west of the east bank of the south-east end of the basin	Sediment	"
SGDD01	SGDD01	91920	8/28/91	1325	In the discharge ditch, approximately 800 feet south of the basin	Sediment	"
SGOD06	SGOD06	91920	8/28/91	1415	In the discharge ditch, approximately 220 feet north of the Tombigbee River	Sediment	"
NS[3]	RS01	91920	8/26/91	1330	Culvert off River Road	Sediment	"
RS02	RS02	91920-	8/26/91	1425	Culvert off River Road at Ferrell residence	Sediment	"
NS	RS03	91920	8/26/91	1530	300 feet behind the Moss residence	Sediment	"
NS	RS04	91920	8/26/91	1700	West side of culvert on south side of River Road	Sediment	"
NS	RS05	91920	8/26/91	1730	Right front corner of the Moss residence	Sediment	"
SC-C3/02	SC-C3/02	91920	8/27/91	1400	Core collected at C3 location, sample collected in the 1- to 2-foot interval	Sediment	"
WG-DD02	WGDD02	91920	8/30/91	1530	In the discharge ditch, approximately 400 feet north of the Tombigbee River	Surface Water	Pesticides, BNA[4] Extractable Organics
WG-BD03	WGBD03	91920	8/30/91	1445	In the basin ditch, approximately 400 feet south of the basin	Surface Water	"

[1] Target Compound List: Includes volatile organic, base/neutral acid extractable, and pesticide analyses
[2] Target Analyte List
[3] NS = No split sample taken by Woodward-Clyde
[4] Base/neutral acid extractable analysis

Table 2
Phase I Split Sample Summary
Olin Chemicals
RI/FS
Sheet 2 of 2

WCC Sample No.	PRC Split Sample No.	EPA Project No.	Date	Time	Location	Type of Media	Type of Analysis
WG-F2/01	WGF201	91920	8/29/91	1510	In the basin at location F2, approximately 300 feet north of the discharge ditch	Surface Water	Pesticides, BNA[4] Extractable Organics
WP-9A	WP9A	91959	9/12/91	1110	North of the Olin plant at the Olin/Ciba-Geigy boundary	Ground Water	TCL[1] and TAL[2]
PL-10S	PL10S	91959	9/13/91	1205	East of Olin plant near the Tombigbee River	Ground Water	"
DH-3	DH3	91959	9/15/91	1115	On the Olin property on the west side of plant	Ground Water	"
E-1	E1	91990	9/16/91	1210	South of the active ash pond	Ground Water	"

[1] Target Compound List: Includes volatile organic, base/neutral acid extractable, and pesticide analyses
[2] Target Analyte List compounds
[3] NS = No split sample taken by Woodward-Clyde
[4] Base/neutral acid extractable analysis

pesticide-grade isopropanol for decontamination procedures. Teflon spray bottles were used for the application of isopropanol.

3.1.3 Surface Water Sampling

Oversight of surface-water sampling at OU-2 was conducted by PRC on August 29 and August 30, 1991. Surface-water samples were collected by Woodward-Clyde from the basin, the outfall ditch, the former discharge ditch, and the basin ditch at randomly selected locations. Basin water samples were collected from a barge using a stainless steel, bomb-type sampler. The number of water samples to be collected at each location was determined by the depth of the water. At depths of 3 feet or less, one water sample was collected near the sediment. At depths ranging from 3 to 15 feet, two water samples were collected at two different depth intervals. For depths of more than 15 feet, three water samples were collected at three different depth intervals. Water-quality parameters, including temperature, pH, specific conductance, and dissolved oxygen were recorded for each water sample collected.

No deviations from the work plan were noted by PRC during surface water sampling activities performed by Woodward-Clyde. Because the work period ended on the weekend, the OU-2 surface water split samples could not be shipped by Federal Express. Therefore, PRC personnel packed the surface water split samples on ice, returned to Atlanta, and delivered them to the EPA Environmental Services Division (ESD) laboratory in Athens, Georgia on Tuesday, September 3, 1991.

3.1.4 Ground-Water Sampling

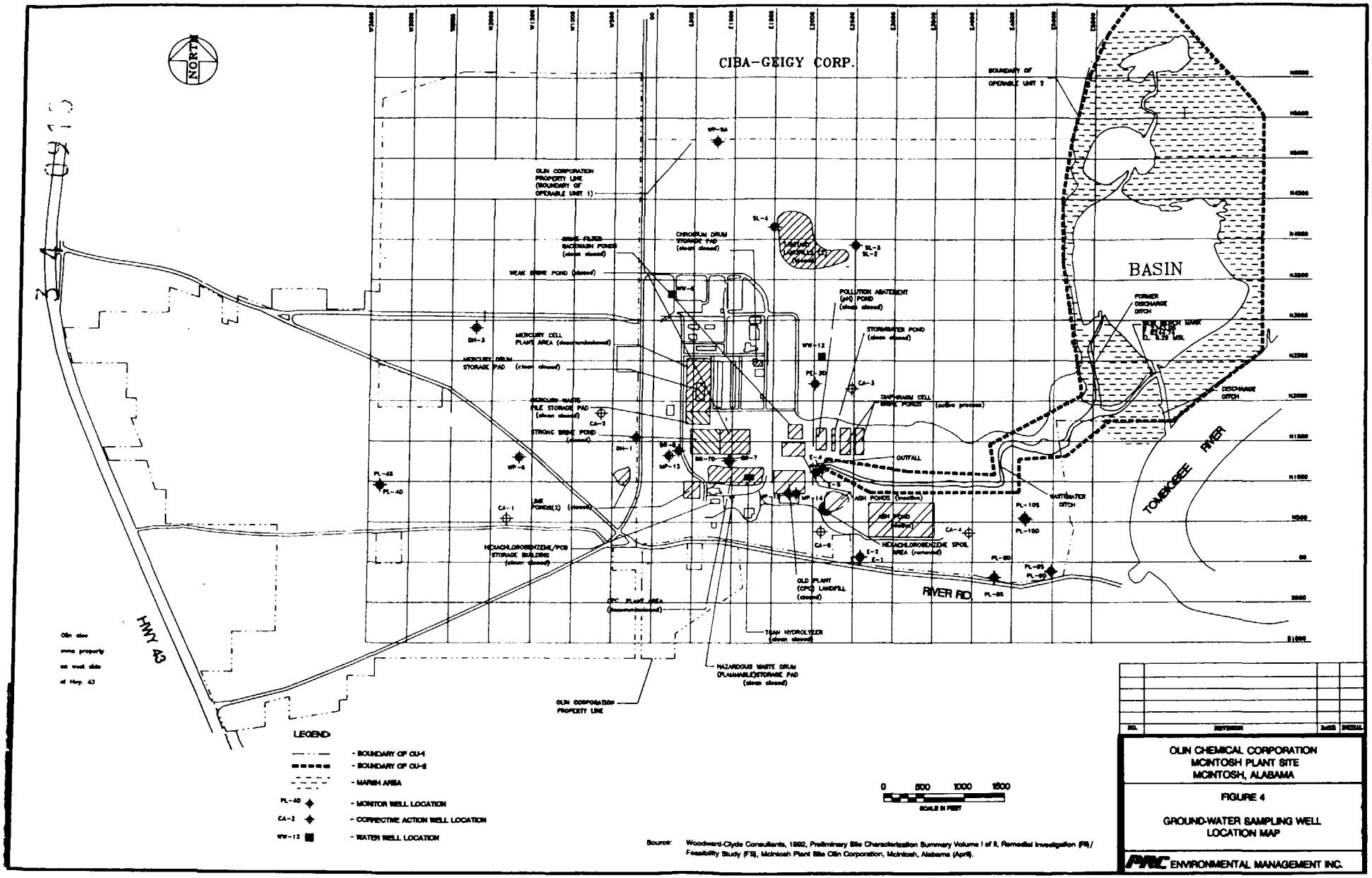
Two aquifers underlie Olin. They are the Alluvial Aquifer and the Miocene Aquifer. In descending stratigraphic order, the Alluvial Aquifer is an unconfined aquifer that is about 55 to 80 feet thick. The Alluvial and Miocene aquifers are separated by the Upper Miocene Confining Unit (UMCU). The UMCU is

predominantly clay, is laterally continuous at the site, ranges from 80 to 100 feet thick, and can be found at a depth between 80 to 100 feet below land surface. The Miocene Aquifer is located below the UMCU and is a confined aquifer. The Miocene Aquifer is the major source of drinking water for the area.

As part of the RI, Woodward-Clyde personnel sampled the Alluvial Aquifer monitoring and corrective-action wells, and the Miocene Aquifer monitoring and production wells. A total of 32 monitoring wells were sampled during the Phase I field activities. The wells sampled included: BR8, MP13, BR7, BR7D, E4, E5, MP14, MP15, WP6, E2, E1, PL10S, PL10D, PL4S, PL4D, PL9D, PL9S, PL8S, PL8D, SL2, SL3, SL4, CA1 through CA4, DH1, DH3, WW8, WW12, WP9A, and PE3D. Ground-water well locations are presented in Figure 4.

Water elevations were obtained from all monitoring wells to develop potentiometric surface maps (POT) and to determine the hydraulic gradient of each of the aquifers. After the water levels were recorded, three well volumes were purged from each monitoring well before sampling. The Alluvial Aquifer corrective-action wells and the Miocene Aquifer monitoring and production wells were pumped for 24 hours before sampling. After each well was purged, the parameters of temperature, pH, and specific conductance were recorded, then ground-water samples were collected. The purged ground water at each well site was stored in 55-gallon drums for future disposal. A total of four ground-water samples were obtained by PRC. PRC used Woodward-Clyde's sampling notations for the ground-water samples collected during Phase I (Table 2).

Several deviations from the work plan were documented by PRC during the ground-water sampling events of Phase I. One problem was that Woodward-Clyde personnel could not obtain water level measurements from some of the monitoring wells. Other problems encountered included well MP-5 being clogged with a wasp nest and well BR5 being broken off at the concrete pad. At well PH2D, Woodward-Clyde personnel could not lower the probe past the dedicated pump in the well to obtain a water level measurement.



Source: Woodward-Clyde Consultants, 1992, Preliminary Site Characterization Summary Volume I of II, Remedial Investigation (RI)/ Feasibility Study (FS), McIntosh Plant Site Olin Corporation, McIntosh, Alabama (April).

NO.	REVISION	DATE	SPECIAL

OLIN CHEMICAL CORPORATION
MCINTOSH PLANT SITE
MCINTOSH, ALABAMA

FIGURE 4

GROUND-WATER SAMPLING WELL LOCATION MAP

PRC ENVIRONMENTAL MANAGEMENT INC.

In addition, two monitoring wells, LP1 and E6, were dry. Monitoring well SL-1, located in the area of the sanitary landfill, could not be located by the Woodward-Clyde personnel due to the heavy vegetation in the area.

Other problems encountered included the ground-water samples from monitoring wells SL-4 and BR7 being broken during shipment. These wells had to be resampled by Woodward-Clyde personnel. Samples collected for volatile organic analysis (VOA) from well CA-4 also had to be recollected because the pump was pulling air and water from the wells which resulted in air being trapped in the sample bottles. At monitoring well PL4D, Woodward-Clyde personnel found that the dedicated pump was broken; therefore, ground-water samples could not be collected until the pump was repaired. Olin personnel removed the pump from monitoring well PL4D, repaired it and then re-installed it without decontaminating the pump before re-installation. PRC personnel informed Woodward-Clyde and Olin personnel that the pump had to be removed from the well, decontaminated, and re-installed before ground-water samples could be collected. PRC provided overisight for all ground-water sampling activities and a total of four EPA ground-water split samples were obtained by PRC during the Phase I ground-water sampling activities. A description of the EPA split samples obtained by PRC during Phase I ground-water sampling activities are presented in Table 2.

3.1.5 Residential Soil Sampling

At the request of Cheryl Smith, EPA RPM, PRC personnel contacted a local resident who had complained that surface-water runoff originating from the Olin plant flooded their property. As a result of additional complaints from individuals residing on the south side of the Olin plant along River Road, EPA requested that PRC collect soil and sediment samples in the area to determine if the surface-water runoff was potentially carrying contaminants off site. Five soil or sediment samples were collected along River Road near the dirt road leading to the Olin Ash Pond on August 26, 1991. Three sediment samples were collected from the drainage culvert which runs underneath River Road on August 26, 1991. Two soil samples were collected

from the yards of the Moss and Ferrell residences. All five soil samples were collected by PRC personnel and split with Olin (See Table 2).

3.2 PHASE II FIELD ACTIVITIES

Oversight was provided by PRC for Phase II RI field activities from September through November 1991. Field activities overseen by PRC included a vegetative stress survey, a benthic macroinvertebrate study, fish sampling, sediment sampling, and off-site domestic well sampling. All Phase II field activities were conducted at OU-2 with the exception of the domestic well sampling, which was conducted within a 3-mile radius of the Olin facility. In addition, a terrestrial vertebrate survey was conducted by Dr. David Nelson from the University of Alabama. This survey entailed wildlife observation only; therefore, no oversight was requested by EPA for this activity.

3.2.1 Vegetative Stress Survey

PRC personnel provided field oversight of a visual vegetative stress survey conducted on September 26 and 27, 1991, and a full-scale vegetative stress survey conducted from September 30 to October 4, 1991. The visual survey included a reconnaissance of both OU-1 and OU-2 to identify the plant community types and species present and to note any indications of vegetative stress.

The full-scale vegetative stress survey was conducted by Woodward-Clyde to identify the plant communities and major species present in the basin, and to determine the correlation between plant stress and contaminant distribution. The methodology consisted of establishing 10 transect lines running east to west across the basin and areas north of the basin within the Olin property boundary. The transects spanned the area from the Olin evacuation road to the west property line. Along each transect, sampling plots were established. All plant species observed in each sampling plot were identified and a cover percentage was estimated. The

percent of cover signifies if the species is common or rare, abundant or sparse. From this sampling method, it can be determined what plant species are common for each community type and what effects contaminants may have had on the plant communities.

3.2.2 Benthic Macroinvertebrate Study

The benthic macroinvertebrate study was performed in the basin from November 4 to November 8, 1991. The purpose of the macroinvertebrate study was to assess the macroinvertebrate species present throughout the basin and to determine if any impacts from site contaminants have occurred.

The procedure used by Woodward-Clyde for macroinvertebrate sampling consisted of collecting sediment from 22 submerged OU-2 sampling stations. Twenty stations were established in the basin, while two stations were established in the former wastewater ditch. The sample collection method at each station consisted of: 1) measuring water quality parameters, which included the pH, temperature, and specific conductance, prior to sediment sample collection; 2) recording depth measurements; and 3) collecting three replicate sediment grab samples for benthic identification by using an Eckman dredge sampler. The sediment collected was sieved to obtain the organic matter. The organic matter was then treated with Formalin to stain the macroinvertebrates for future stereoscopic identification. In addition, two sediment samples were collected for particle size and total organic carbon (TOC) analysis. Due to limited space in the boat used for sampling, PRC personnel periodically observed the macroinvertebrate sampling from another boat, in conjunction with the fish sampling activities. No EPA split samples were obtained by PRC for macroinvertebrate sampling activities.

3.2.3 Fish Sampling

PRC provided field oversight of fish sampling activities at OU-2 from November 4 through November 8, 1991. PRC personnel observed the entire process, from the collection of target species to processing the

samples. The main objective of the fish sampling activity was to obtain tissues for contaminant analysis from a species at the top of the aquatic food chain (largemouth bass) as well as from a bottom-dwelling, bottom-feeding species (channel catfish).

The procedures used to obtain the target species included hoopnetting, electrofishing, and gill netting. These procedures were used to obtain 44 individual specimens (22 of each species). Most of the sampling activities were focused along the northern and eastern shorelines and the deep-hole located in the northeastern portion of the basin. Most of the largemouth bass were obtained during the electrofishing activities and most of the channel catfish were obtained through the use of gill nets.

Once all 44 individual specimens were obtained, the samples were prepared for laboratory analysis. The samples consisted of 20 largemouth bass (10 whole body and 10 fillet) and 20 catfish (10 whole body and 10 fillet). EPA split samples consisted of 2 largemouth bass (1 whole body and 1 fillet) and 2 catfish (1 whole body and 1 fillet). PRC used Woodward-Clyde's sampling notation when obtaining split samples (for example, a whole body channel catfish sample obtained from basin gill net number three was designated as sample CC-G3-07WB). Table 3 presents the EPA split samples collected by PRC during Phase II sampling activities.

3.2.4 Sediment Sampling

PRC provided field oversight of sediment sampling at OU-2 from November 11 to November 14, 1991. Five additional core samples were collected in order to obtain additional data to fill in gaps from the Phase I sampling, which was not adequate to determine the extent of contamination at OU-2.

Core samples were collected by Woodward-Clyde from the basin and the outfall ditch at C-2, I-7, and about 160 feet east of E-2, OD-1S and OD-2S (Figure 3). The cores were obtained from a barge using a stainless-steel cylinder. A vibracore sampler, which was attached to the barge, was used to drive the cores into

Table 3
Phase II Split Sample Summary
Olin Chemicals
RI/FS

WCC Sample No.	PRC Split Sample No.	EPA Project No.	Date	Time	Location	Type of Media	Type of Analysis
Same Notation[1]	LB-E1-01WB	920067	11/5/91	0940	In the basin along the east bank	Largemouth Bass	TCL[2], TAL[3], Mercury
Same Notation	LB-E2-04FI	920067	11/5/91	1030	In the basin along the east bank	Largemouth Bass	TCL[2], TAL[3], Mercury
Same Notation	CC-G3-07WB	920067	11/7/91	1415	In the basin in gill net #3	Channel Catfish	TCL[2], TAL[3], Mercury
Same Notation	CC-G3-08FI	920067	11/7/91	1415	In the basin in gill net #3	Channel Catfish	TCL[2], TAL[3], Mercury
DW-16	OM-DW-16	920116	11/20/91	1330	Domestic well located 1.3 miles SW of Olin	Domestic Ground Water	VOA[4], TAL[3], PCNB[5]
DW-40	OM-DW-40	920116	11/20/91	1245	Domestic well located 0.3 mile SE of Olin	Domestic Ground Water	VOA[4], TAL[3], PCNB[5]
DW-22	OM-DW-22	920116	11/21/91	0935	Domestic well located 1.5 miles SW of Olin	Domestic Ground Water	VOA[4], TAL[3], PCNB[5]
DW-26	OM-DW-26	920116	11/20/91	1145	Domestic well located 1.2 miles SW of Olin	Domestic Ground Water	VOA[4], TAL[3], PCNB[5]

[1] WCC and PRC used same sampling notation for fish samples
[2] Target Compound List: Includes volatile organic, base neutral acid extractable, and pesticide analyses
[3] Target Analyte List compounds
[4] Volatile Organic Analysis
[5] Pentachloronitrobenzene (PCNB)

the sediment to the desired sampling depth. In the areas where the barge could not be used, the cylinders were advanced by hand. In all cores except C-2, samples were collected every 2 inches for the first 6 inches and then only at the 3-to-4 foot and the 6-to-7 foot intervals. Since the vertical contamination at C-2 was in question and the first five feet of this location had been sampled during Phase I, the sample collection at this location began at the 7-to-8 foot interval and the second sample for this location was collected from the 10-to-14 foot interval. It should be noted that the core sample location OD-15 contained a layer about 2.5 inches thick of a white substance, at a depth of about 3.2 feet. Woodward-Clyde collected some samples that contained the white substance. As discussed with EPA, no split samples were obtained by PRC during this sampling activity.

3.2.5 Domestic Well Sampling

PRC oversight of domestic well sampling activities was performed from November 11 to November 15 and from November 18 to November 21, 1991. Domestic wells used for drinking water were previously identified from a well survey conducted by the University of Alabama. The survey consisted of contacting each residence that had a well located within a 3-mile radius of Olin. Information was then obtained regarding the well use, well construction details, and the depth of the well. Domestic wells that were not identified by the survey as being used as a source of drinking water were not sampled. Before sampling, each resident was requested to sign a release form granting permission to sample their well.

The majority of the domestic wells were equipped with electric pumps; therefore, bailing was not required for purging or sampling. Prior to sampling, one well volume was purged using a typical garden hose. One well volume was purged that included the volume of water standing in the well plus the water present in the storage tank before sampling. The average water storage tank had a capacity of about 30 gallons; therefore, about 45 gallons of water were purged from each well. Woodward-Clyde personnel initially decided to purge one well volume and then run the water through the garden hose for about 15 minutes; however, the decision was made to not run the well pumps for an additional 15 minutes because of the undue stress that would be

placed on some of the older pumps. Because the wells are used on a daily basis, the decision was made by Woodward-Clyde to purge only one well volume from each well. Woodward-Clyde believed that purging one well volume plus the water in the storage tank was adequate to obtain a representative ground-water sample.

After purging one well volume through a garden hose, the water was collected directly from the spigot and the parameters of pH, specific conductance, and temperature were recorded four times for each well. The final ground-water sample to be used for analysis was then collected from the spigot. PRC used Woodward-Clyde's notation when obtaining EPA split samples.

Minor work plan deviations were noted. During the sampling of domestic well sample DW-32, the sample had to be collected through the garden hose instead of directly from the spigot, because of the presence of an electrical outlet located directly below the spigot. Because of health and safety concerns, sample collection was done through the garden hose. In addition, Ken Lucas, acting as temporary RPM, requested that a split sample be collected from well DW-13. Because the pump at this well was not functioning and the resident was connected to the city water supply, an alternate well was chosen for an EPA split sample. A total of four EPA split domestic well samples were obtained by PRC (Table 3).

3.3 PHASE III FIELD ACTIVITIES

Oversight for Phase III RI field activities occurred from August 11 until September 4, 1992. Field activities overseen by PRC included soil sampling at OU-1, sediment sampling at OU-2, and a macroinvertebrate control and background sediment sampling activities at Lake Hatchetigbee, which is located approximately 45 miles upriver of the Olin site on the Tombigbee River. The Phase III field activities included: (1) an evaluation of OU-1 for continuing sources of ground water contamination; (2) RCRA clean closure equivalency demonstrations as required under 40 CFR Part 270.1(c); and (3) additional OU-2 sediment sampling to determine the extent of horizontal contamination.

3.3.1 OU-1 Soil Borings

PRC provided field oversight of soil borings at OU-1 from August 11 to August 21, 1992 and from August 31 to September 2, 1992. Six areas located at OU-1 were sampled during the Phase III field activities. These areas included the CPC Plant Area (2 borings), the CPC Plant Landfill (4 borings), the Strong Brine Pond (2 borings), two Lime Ponds (1 boring from each), the Mercury Cell Plant (6 borings), the Mercury Waste Pile Storage Pad (1 boring), and the Sanitary Landfill (3 borings). In addition, the storm water pond (2 borings), the pH abatement pond (2 borings), and the brine filter backwash pond (1 boring), which have undergone RCRA clean closure, were also sampled for clean closure equivalency demonstrations.

The locations at OU-1 were sampled by using a drill rig equipped with either shelby tubes or split spoons. PRC used Woodward-Clyde's notation when obtaining EPA split samples. For example: a soil sample collected from the CPC plant site at boring location two from 18 to 20 feet would be delineated as BCP220 (see Table 4). The soil samples collected from the CPC Plant Area and the CPC Plant Landfill were taken at 2-foot intervals through the residual waste material and underlying clay aquitard, to a maximum depth of about 10 or 20 feet, into the underlying Alluvial Aquifer. The soil samples collected from the Lime Ponds and the Sanitary Landfill were taken at 2-foot intervals to the base of the waste. The soil samples collected from the Mercury Cell Plant and the Mercury Waste Pile Storage Pad were taken at 2-foot intervals with a hand auger to a maximum depth of 4 feet below the asphalt cover. The soil samples collected from the Strong Brine Pond were taken at 2-foot intervals to a depth of 2 to 4 feet below the base of the pond into natural soils. All soil samples collected were screened for headspace analysis by using an organic vapor analyzer (OVA) and an HNu air monitoring device.

Clean closure equivalency samples collected from the brine filter backwash pond, the pH pond, and the stormwater pond were taken at 2-foot intervals to a maximum depth of 7 feet below the base of the ponds by using either a hand auger or a drill rig. PRC collected six EPA split soil samples during the Phase III, OU-1

Table 4
Phase III Split Sample Summary
Olin Chemicals
RI/FS

WCC Sample No.	PRC Split Sample No.	EPA Project No.	Date	Time	Location	Type of Media	Type of Analysis
BSB110	BSB110	920794	8/13/92	1016	Strong Brine Pond	Soil	TCL[2] and TAL[3]
BSB210	BSB210	920794	8/13/92	1730	Strong Brine Pond	Soil	"
BOP138	BOP138	920794	8/17/92	1620	CPC Old Landfill Site	Soil	"
BCP220	BCP220	920794	8/14/92	1600	CPC Plant Site	Soil	"
BSL107	BSL107	920794	8/19/92	0940	Sanitary Landfill	Soil	"
BSL110	BSL110	920794	8/19/92	0940	Sanitary Landfill	Soil	"
SGFP25	SGFP25	920822	8/30/92	1050	Wetlands surrounding OU-2	Sediment	"
SBFP09	SGFP09	920822	8/30/92	1800	Wetlands surrounding OU-2	Sediment	"
SBFP19	SGFP19	920822	8/31/92	1420	Wetlands surrounding OU-2	Sediment	"
SGBG01	SGBG01	920822	9/02/92	1500	Lake Hatchetigbee	Sediment	"
SGTR01	SGTR01	920822	9/03/92	1330	Tombigbee River	Sediment	"

[1] NA = Not Available
[2] Target Compound List: Includes volatile organic, base neutral acid extractable, and pesticide analyses
[3] Target Analyte List compounds

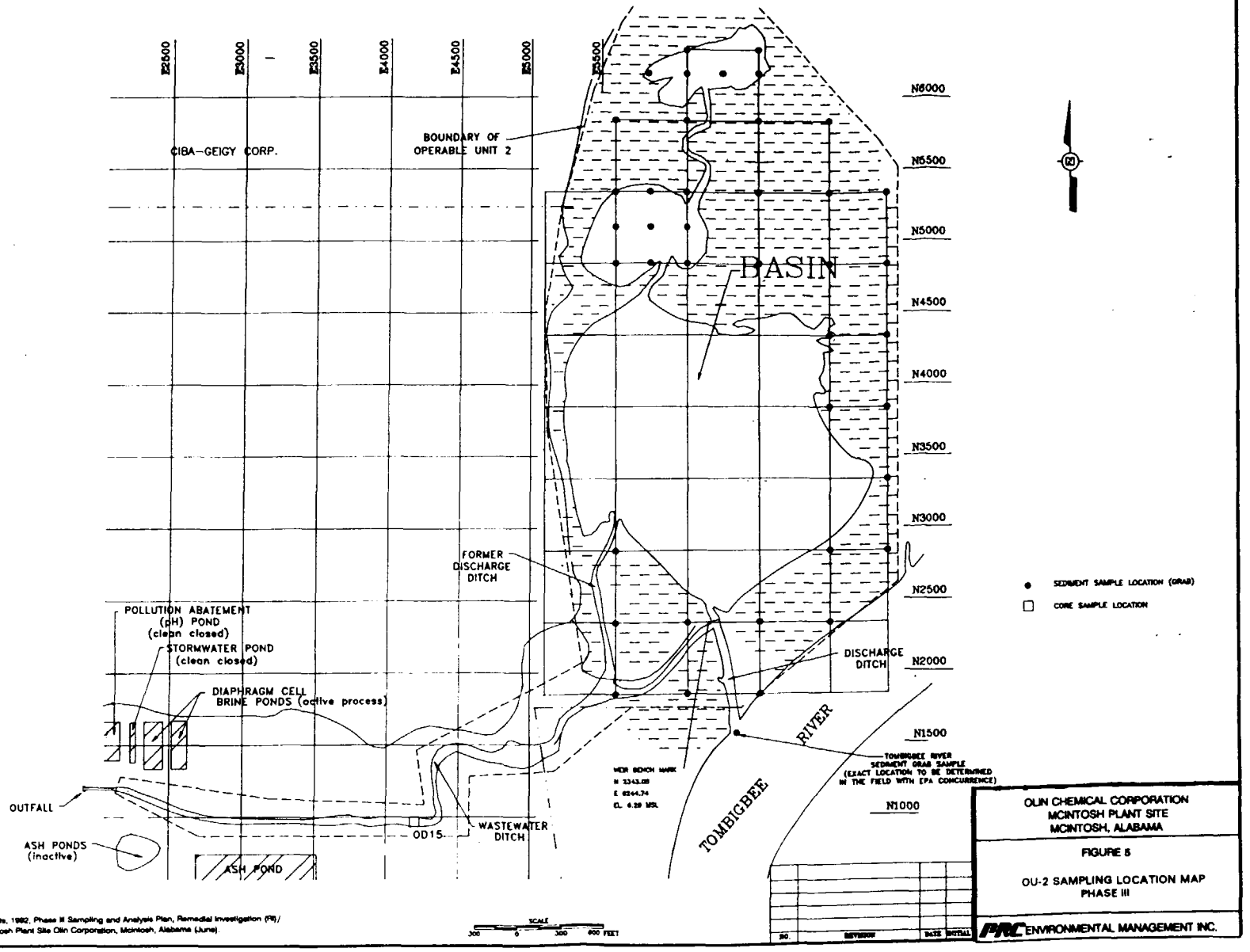
field activities. The split samples were collected from the CPC Plant Area (BCP220), the Strong Brine Pond (BSB110 and BSB210), the Sanitary Landfill (BLS107 and BLS110), and the CPC Plant Landfill (BOP138).

The field oversight and sampling activities for OU-1 were extended an additional week because of rain delays and equipment malfunctions.

3.3.2 OU-2 Sediment Sampling

PRC provided field oversight of the sediment sampling at OU-2 from August 29 to September 1, 1992. Sediment grab samples were collected from 41 locations within the wetlands east of OU-2 and the two ponds north of OU-2. One sediment sample was also collected from the Tombigbee River. An additional core sample was collected at location OD-15 to further characterize the vertical contamination at this location. The purpose of the Phase III OU-2 sampling activities was to help characterize the lateral extent of contamination at OU-2.

The sediment samples were collected by Woodward-Clyde on a 500-foot grid system that covered most of the area of OU-2 that was not sampled during the Phase I or Phase II sampling activities. Phase III sediment sampling locations are presented in Figure 5. The sediment samples were collected by using hand scoops and then mixed in stainless steel bowls before being put into sampling containers. Because of the high water level at OU-2, some of the sampling locations had to be estimated since flags delineating the sampling locations were under water. Five core samples were taken from the sampling location OD-15 at the depths of 6-11 feet at one-foot intervals. Three EPA split samples were obtained by PRC during the Phase III OU-2 sediment sampling activities. A description of the EPA split samples obtained by PRC during Phase III are presented in Table 4.



Source: Woodward-Clyde Consultants, 1992, Phase III Sampling and Analysis Plan, Remedial Investigation (RI)/ Feasibility Study (FS), McIntosh Plant Site Olin Corporation, McIntosh, Alabama (June).

OLIN CHEMICAL CORPORATION
MCINTOSH PLANT SITE
MCINTOSH, ALABAMA

FIGURE 5

OU-2 SAMPLING LOCATION MAP
PHASE III

PRC ENVIRONMENTAL MANAGEMENT INC.

3.3.3 Benthic Macroinvertebrate Control and Sediment Background Sampling

An ecosystem similar to that of the basin was required as a control station for comparison to the macroinvertebrate species collected from the basin during Phase II activities. The site chosen for the control station was Lake Hatchetigbee, which is located approximately 45 miles upriver from the Olin site along the Tombigbee River. PRC provided field oversight for this one-day sampling event. Activities conducted by Woodward-Clyde at Lake Hatchetigbee included a preliminary bathymetric survey to determine sample station locations. Three sample stations were selected at three different depth intervals. Prior to sediment collection, water quality parameters were recorded at each sample location. Sediment samples were collected for macroinvertebrates, particle size and TAL metal analysis. The metal analysis was conducted to establish background metal concentrations. For consistency, three additional sediment samples were subsequently collected in the basin and were re-analyzed for macroinvertebrates. One EPA split sediment sample was obtained by PRC at Lake Hatchetigbee.

3.4 FEASABILITY STUDY ACTIVITIES

PRC provided field oversight of feasability study (FS) activities on February 16, 1993. Field activities overseen included testing the velocity and direction of surface water flow in the Olin basin and the deployment of four InterOcean Systems S4 current meters. The purpose of these activities was to establish surface and subsurface flow vectors, velocities, and flow transition zones, assess the potential for sediment erosion and transport/deposition within the basin, and to get an estimation of sediment transport by the Tombigbee river system when the river floods the basin.

The four S4 current meters were deployed at the following locations: Buoy A No. 901 near the drainage weir, Buoy B No. 902 near the flood overflow area to the east-southeast, Buoy C No. 903 situated between Buoy A and Buoy B near the middle of the basin, and Buoy D No. 904 on the west side near a point of

high mercury contamination. The S4 current meters were to be in place for 90 days and were programmed to take a reading every 15 minutes. Testing of velocity and direction of flow was conducted with a Marsh McBirney meter at 12 locations in the basin. The flow was measured in meters per second.

4.0 SUMMARY OF SPLIT SAMPLES

During the RI field activities, PRC personnel obtained EPA split samples from Woodward-Clyde to provide a quality control check of Woodward-Clyde's analytical data. EPA requested that PRC obtain a split of 10 percent of the samples collected by Woodward-Clyde during the RI. Split samples were obtained from all media, including surface soil, subsurface soil, ground water, sediment, and surface water.

PRC used Woodward-Clyde's sample identification numbers when labeling the split samples. Tables 1, 2, and 3 provide a detailed summary of the EPA split samples obtained by PRC. With the exception of one set of ground-water split samples that was sent to Envirosystems, Inc. (VOA), Datachem, Inc. (TAL metals and cyanide), and Envirite Analytical Services (PCNB), all sample analyses were performed by the EPA Environmental Services Division (ESD) laboratory in Athens, Georgia. The samples collected under EPA ESD project number 920116 were analyzed by a laboratory certified under the Contract Laboratory Program (CLP).

Sample collection procedures used by Woodward-Clyde personnel during the collection of samples adhered to the sampling procedures specified in the sampling analysis plans for each of the three phases of the RI. PRC personnel followed EPA's standard operating procedures outlined in the quality assurance manual for obtaining split samples. Before split samples were obtained, the sample containers were labeled with the sample number, date, time, and required analysis. After the containers were filled, PRC placed them on ice in a cooler. The samples were then prepared for shipment to the laboratory for analysis. Sample preparation consisted of filling out the chain-of-custody form(s), provided in Appendix B, and the Contract Laboratory Program (CLP) sample tags. After the samples were recorded on the chain-of-custody form(s) and properly tagged, chain-of-custody seals were placed over the container lids. The samples were then placed on ice in coolers to be delivered to the laboratory. The chain-of-custody form(s) were taped to the inside of the cooler lids, the coolers were taped shut with shipping tape, and the chain-of-custody seals were affixed to the cooler lids. All samples obtained were sent to the laboratory by an overnight carrier.

APPENDIX A

PHOTO LOG

Photo No. 1-5

Date: 7/24/91 **Picture Taken By:** BLT **Direction Facing:** NE

Picture Description: WCC personnel surveying basin sampling stations.

Photo No. 1-15

Date: 7/26/91 **Picture Taken By:** BLT **Direction Facing:** E

Picture Description: Cypress trees near the basin shore and alligator at the surface in the foreground.

Photo No. 1-17

Date: 7/26/91 **Picture Taken By:** BLT **Direction Facing:** N

Picture Description: WCC personnel netting fish during preliminary basin reconnaissance survey.

Photo No. 7-8

Date: 8/20/91 **Picture Taken By:** BLT **Direction Facing:** NW

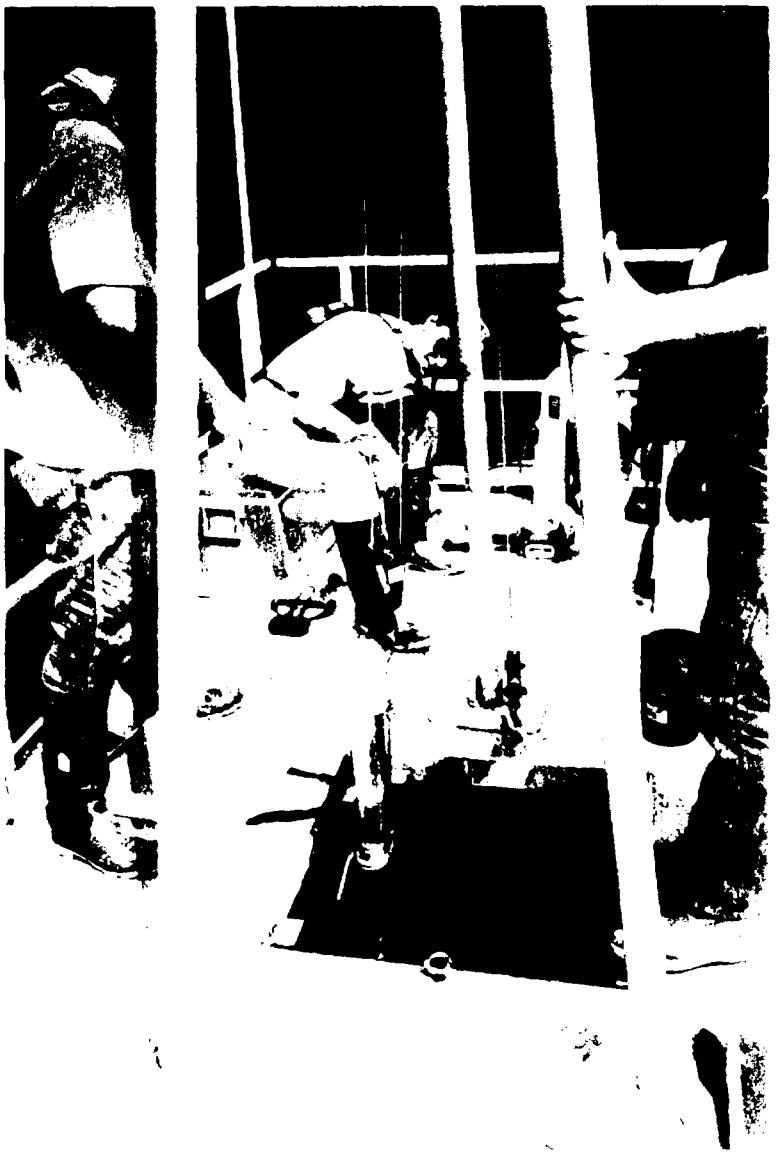
Picture Description: WCC personnel collecting EPA split sediment sample at sampling location SGBD05 in basin discharge ditch.

Photo No. 7-15

Date: 8/21/91 **Picture Taken By:** BLT **Direction Facing:** S

Picture Description: WCC personnel collecting sediment sample at sample location SGDD03 in discharge ditch.

Photo No. 8-4



Date: 8/23/91 **Picture Taken By:** BLT **Direction Facing:** W

Picture Description: WCC personnel conducting subsurface sediment sampling in the basin. Sediment core from core location #2 is being retrieved.

3 4 0937

Photo No. 12-16

Date: 9/30/91 **Picture Taken By:** PM **Direction Facing:** NE

Picture Description: WCC personnel conducting vegetative stress survey in OU-2, north of the basin.

Photo No. 12-22

Date: 10/01/91 **Picture Taken By:** PM **Direction Facing:** NE

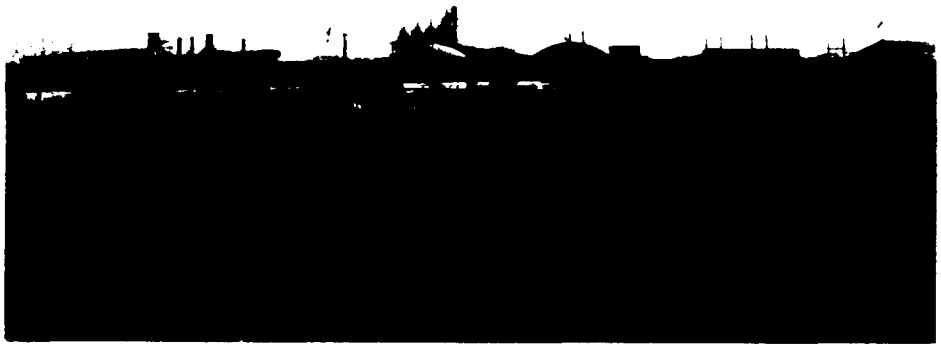
Picture Description: WCC personnel conducting vegetative stress survey in ponds north of the basin.

Photo No. 14-20

Date: 11/07/91 **Picture Taken By:** TGB **Direction Facing:** S

Picture Description: WCC personnel preparing fish fillet sample caught in basin.

Photo No. 16-3



Date: 8/12/92 **Picture Taken By:** RSC **Direction Facing:** NE

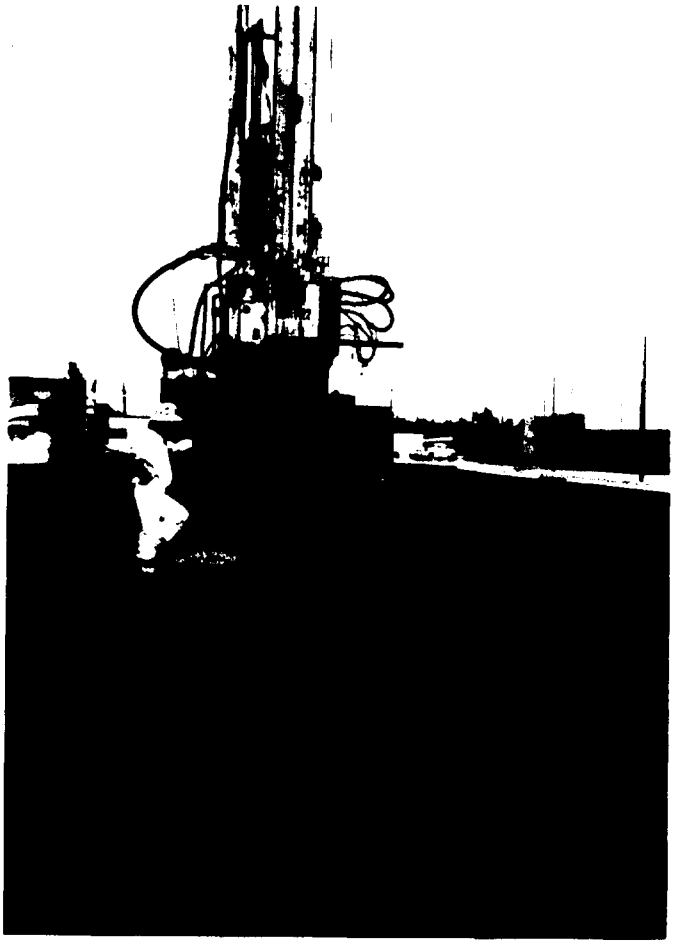
Picture Description: Olin plant viewed from Lime Pond #1.

Photo No. 17-10

Date: 8/16/92 **Picture Taken By:** SLN **Direction Facing:** S

Picture Description: WCC and Layne personnel conducting drilling and sampling activities in Level B at the CPC Plant Landfill.

Photo No. 17-15



Date: 8/21/92 **Picture Taken By:** SLN **Direction Facing:** N

Picture Description: Layne personnel augering through asphalt at former mercury cell plant area.

Photo No. 18-8

Date: 9/02/92 **Picture Taken By:** SP **Direction Facing:** Unknown

Picture Description: WCC personnel conducting benthic macroinvertebrate sampling at Lake Hatchetigbee, designated as the control area.

APPENDIX B

CHAIN OF CUSTODY FORMS

DYNAMAC CORPORATION

CHAIN OF CUSTODY RECORD

0137

PROJ. NO.	PROJECT NAME
9192	CC 4C7?C? Chin Chem McIntosh AL

SAMPLERS (Signature): [illegible signature]

Circle/add Parameters Desired ( ) - Indicates Separate Containers

Water/Wastewater | Soil/Sed/Sldg | Waste | Misc

STA. NO.	DATE	TIME	COMP	GRAB	STATION LOCATION	NO. OF CONTAINERS	(Gal G (ext org Pest) (EP) (herb)	40 ml vial (VOA)	250 ml G (TOX)	P (Bod, TSS, Cl, Fl, SO4, etc)	R.G (pheno) (O&G) (pest)	R.P (met, hard) (Toc, COD, N, P, etc)	0.5-l P (S)	½ gal or l P (CN)	4 oz G (ext org pest herb) (met) (EP)	4 oz G (VOA)	P or G (CN, S, N, P, COD etc) TAL H, K	8 oz G (ext org pest herb VOA)	8 oz G (EP) (met CN S FP) (FP BTU)	REMARKS/TAG NUMBERS
SG[illegible]	8/21/91	11:1?		X	OD Basin Ditch	6									4	1	1			Data on Tags should be the (8/21/91)
SG0001	8/21/91	9:30		X	OD Discharge Ditch	6									4	1	1			8 oz Containers
SG0006	8/21/91	11:50		X	OD Outfall Ditch	6									4	1	1			8 oz Containers

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Thomas	8/22/91 1700				
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)

Remarks

DISTRIBUTION: Original and Pink copies accompany sample shipment to laboratory. Pink copy retained by laboratory. Yellow copy retained by samplers.

3 4 094

DYNAMAC CORPORATION

CHAIN OF CUSTODY RECORD

0138

[illegible]

[illegible]

PROJ. NO.	PROJECT NAME
[illegible]	[illegible]

SAMPLERS (*Signature*): [illegible]

Circle/add Parameters Desired (✓ Indicates Separate Containers)

Water/Wastewater | Soil/Sed/Sldg | Waste | Misc

STA NO	DATE	TIME	COMP	GRAB	STATION LOCATION	NO OF CONTAINERS	(Gal G (ext org Pest) (EP) (herb)	40 ml vial (VOA)	250 ml G (TOX)	P (Bod TSS Cl Fl SO_4 etc)	ILG (pheno) (O&G) (pest)	ILP (met hard) (Toc COD N P etc)	0.5-ILP (S^-)	½ gal or ILP (CN)		8 oz G (ext org pest herb) (met) (EP)	4 oz G (VOA)	P or G (CN S^- N P COD etc)	8 oz G (ext org pest herb VOA)	8 oz G (EP) (met CN S^- FP) (FP BTU)	REMARKS/TAG NUMBERS
G-5	[illegible]	726		X	[illegible]	6										4	1	1			
G-3	[illegible]	1057		X	[illegible]	6										4	1	1			
[illegible]	[illegible]	1017		X	[illegible]	6										4	1	1			

Relinquished by: (*Signature*)	Date/Time	Received by: (*Signature*)	Relinquished by: (*Signature*)	Date/Time	Received by: (*Signature*)	Remarks
[illegible]	[illegible] 1110					
Relinquished by: (*Signature*)	**Date/Time**	**Received by: (*Signature*)**	**Relinquished by: (*Signature*)**	**Date/Time**	**Received by: (*Signature*)**	

DISTRIBUTION: Original and Pink copies accompany sample shipment to laboratory. Pink copy retained by laboratory. Yellow copy retained by samplers.

DYNAMAC CORPORATION

CHAIN OF CUSTODY RECORD

0139

~~Note change to EPA Job # 91920~~

PROJ. NO.	PROJECT NAME
~~91894~~ 154	Olin Chemical Milford, NH

SAMPLERS (Signature)

STA. NO.	DATE	TIME	COMP	GRAB	STATION LOCATION	NO. OF CONTAINERS	Water/Wastewater: (Gal G (ext org, Pest) (EP) (herb); 40 ml vial (VOA); 250 ml G (TOX); P (Bod, TSS, Cl, Fl, Spc, etc); N,G (pheno) (O&G) (pest); N,P (met, herb) (Toc, COD, N, P etc); 0.5-1LP (S⁼); ½ gal or 1LP (CN); 8 oz G (ext org, pest herb) (met) (EP); 4 oz G (VOA); P or G (CN, S⁼, N, P, COD etc); 8 oz G (ext org, pest, herb, VOA); 8 oz G (EP) (met, CN, S⁼, FP; (FP, BTU))	Soil/Sed/Sldg	Waste	Misc	REMARKS/TAG NUMBERS
RS01	9/26/91	1330		Y	South of Olin Chem (River Rd culvert)		4 1 1			5 80z containers 1 4oz container
RS02	"	"		Y	West corner of Mary Ferrand (Riverside culvert)					"
RS03	"	1430		Y	300 ft behind the Moss house South of Hartshorn Rd		4 1 1			"
RS04	"	"		Y	off of dirt Rd on west side of culvert		4 1 1			"
RS05	"	1700		Y	Right front corner of Mr. Moss yard		4 1 1			"

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Remarks
	9/26/91 1730					
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	

DISTRIBUTION Original and Pink copies accompany sample shipment to laboratory. Pink copy retained by laboratory. Yellow copy retained by samplers.

DYNAMAC CORPORATION

CHAIN OF CUSTODY RECORD

0140

PROJ. NO. 91920

PROJECT NAME C0405102 Olin Chemical McIntosh, AL

SAMPLERS (Signature) [illegible signature]

Circle/add Parameters Desired ( ) - Indicates Separate Containers

STA NO	DATE	TIME	COMP	GRAB	STATION LOCATION	NO OF CONTAINERS	8 oz G (ext org pest herb) (met) (EP)	4 oz G (VOA)	P or G (CN S⁼ N P COD etc)	REMARKS/TAG NUMBERS
[illegible]	[illegible]	[illegible]		/	[illegible] DD	6	4	1	1	5-[illegible] 1-[illegible]
[illegible]	[illegible]	12:25		Y	Discharge Ditch DD	6	4	1	1	5-[illegible] "
[illegible]	[illegible]	[illegible]		Y	[illegible]	6	4	1	1	2-[illegible] 2-[illegible] 1-4 [illegible]

Water/Wastewater columns: (Gal G (ext org Pest) (EP) (herb)); 40 ml vial (VOA); 250 ml G (TOX); P (Bod, TSS, Cl, Fl, SO_4, etc); ILG (pheno) (O&G) (pest); ILP (met, hard) (Toc, COD, N, P, etc); 0.5-ILP ($S^=$); ½ gal or ILP (CN)

Soil/Sed/Sldg columns: 8 oz G (ext org pest herb) (met) (EP); 4 oz G (VOA); P or G (CN, $S^=$, N, P, COD, etc); 8 oz G (ext org pest herb VOA); 8 oz G (EP) (met CN $S^=$ FP) (FP BTU)

Waste

Misc

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Remarks
[illegible signature]	[illegible]					
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	

DISTRIBUTION: Original and Pink copies accompany sample shipment to laboratory. Pink copy retained by laboratory. Yellow copy retained by samplers.

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4
0940

DYNAMAC CORPORATION

CHAIN OF CUSTODY RECORD

0151

PROJ. NO.: 91920

PROJECT NAME: Olin Chem McIntosh, AL

SAMPLERS (Signature): Thomas

Circle/add Parameters Desired ( ) - Indicates Separate Containers

Water/Wastewater: (Gal G (ext org Pest) (EP) (herb); 40 ml vial (VOA); 250 ml G (TOX); P (Bod, TSS, Cl, Fl, SO4 etc); 1L G (pheno) (O&G) (pest); 1L P (met, hard) (Toc, COD, N, P, etc); 0.5-1L P (S=); ½ gal or 1L P (CN)

Soil/Sed/Sldg: 8 oz G (ext org pest, herb) (met) (EP) (?); 4 oz G (VOA); P or G (CN, S=, N, P, COD etc)

Waste: 8 oz G (ext org pest, herb, VOA); 8 oz G (EP) (met, CN, S=, FP) (FP, BTU)

Misc

STA NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	(Gal G (ext org Pest) (EP) (herb)
WGDD/62	8/25/	1530		X	Tag #2211 color #1	1	/
WGDD/62		1530		Y	2210	1	/
"	"	1530		Y	2212	1	/
"	"	1530		Y	2250	1	/
WGED/03	"	1430		Y	2163	1	/
	"	1430		X	2147	1	/
WGED/13	"	1430		Y	2146 color #2	1	/
"	"	1430		Y	2148	1	/
WGF2/01	"	1510		Y	2155	1	/
"	"	1510		Y	2156	1	/
"	"	1510		Y	2154	1	/
"	"	1510		Y	2153	1	/

REMARKS/TAG NUMBERS

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Thomas	9/3/ / 11:30				
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)

Remarks

DISTRIBUTION: Original and Pink copies accompany sample shipment to laboratory. Pink copy retained by laboratory. Yellow copy retained by samplers.

0 9 4 5

DYNAMAC CORPORATION

CHAIN OF CUSTODY RECORD

0152

PROJ. NO.	PROJECT NAME
91930	Olin Chem, McIntosh, AL

SAMPLERS (Signature): Thomas

Circle/add Parameters Desired
( ) - Indicates Separate Containers

STA NO	DATE	TIME	COMP	GRAB	STATION LOCATION	NO. OF CONTAINERS	Water/Wastewater: (Gal G (ext org Pest) (EP) (herb)	40 ml vial (VOA)	250 ml G (TOX)	P (Bod, TSS, Cl, Fl, SO4, etc)	ILG (pheno) (O&G) (pest)	ILP (met, herd) (Toc, COD, N, P, etc)	0.5-ILP (S⁼)	½ gal or ILP (CN)	Soil/Sed/Sldg: 8 oz G (ext org pest herb) (met) (EP)	4 oz G (VOA)	P or G (CN, S⁼ N, P, COD etc)	Waste: 8 oz G (ext org pest herb VOA)	8 oz G (EP) (met CN S⁼ FP) (FP BTU)	Misc	REMARKS/TAG NUMBERS
WGF2AA	8/29	1510		Y		6		2		2		2									
WG20AA	8/30	1430		X		6		2		2		2									
WG0AA	8/30	1530		Y		6		2		2		2									

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Thomas	9/3/91 1030				
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)

Remarks

DISTRIBUTION: Original and Pink copies accompany sample shipment to laboratory. Pink copy retained by laboratory. Yellow copy retained by samplers.

DYNAMAC CORPORATION

CHAIN OF CUSTODY RECORD

0265

PROJ. NO.	PROJECT NAME
91959	Olin Chemical 10105902

SAMPLERS (Signature): [signature]

STA NO	DATE	TIME	COMP	GRAB	STATION LOCATION	NO. OF CONTAINERS	(Gal G (ext org. Pest) (EP) (herb)	40 ml vial (VOA)	250 ml G (TOX)	P (Bod, TSS, Cl, Fl, So4 etc)	1LG (pheno) (O&G) (pest)	1LP (met, hard) (Toc, COD, N, P etc)	0.5-1LP (S=)	½ gal or 1LP (CN)	8 oz G (ext org pest herb) (met) (EP)	4 oz G (VOA)	P or G (CN S= N P COD etc)	8oz G (ext org pest herb VOA)	8 oz G (EP) (met CN S= FP) (FP BTU)	REMARKS/TAG NUMBERS
WF9A	7/11/[illegible]	11:10		X	Olin Chem Background (purpose)	9	4	2		1		2			2 1L		4 1L			[illegible] Water

Circle add Parameters Desired ( ) - Indicates Separate Containers

Water/Wastewater | Soil/Sed/Sldg | Waste | Misc

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Remarks
[signature]	7/12/[illegible] 1700					
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	

DISTRIBUTION: Original and Pink copies accompany sample shipment to laboratory. Pink copy retained by laboratory. Yellow copy retained by samplers.

DYNAMAC CORPORATION

CHAIN OF CUSTODY RECORD

0269

PROJ. NO.	PROJECT NAME
[illegible]	[illegible]

SAMPLERS (*Signature*): [illegible]

Circle/add Parameters Desired ( ) - Indicates Separate Containers

Water/Wastewater | Soil/Sed/Sldg | Waste | Misc

STA NO	DATE	TIME	COMP	GRAB	STATION LOCATION	NO. OF CONTAINERS	Gal G (ext org Pest) (EP) (herb)	40 ml vial (VOA)	250 ml G (TOX)	P (Bod, TSS, Cl, Fl, SO_4 etc)	ILG (pheno) (O&G) (pest)	ILP (met, herd) (Toc, COD, N, P, etc)	0.5-ILP ($S^=$)	½ gal or ILP (CN)	8 oz G (ext org pest herb) (met) (EP)	4 oz G (VOA)	P or G (CN, $S^=$, N, P, COD etc)	8 oz G (ext org pest herb VOA)	8 oz G (EP) (met, CN, $S^=$, FP) (FP, BTU)	REMARKS/TAG NUMBERS
[illegible]	[illegible]	[illegible]		Y	[illegible]	7	2	2		1		1		1						
[illegible]	[illegible]	[illegible]		Y	[illegible]	5		2		1		1		1						

Relinquished by: (*Signature*)	Date/Time	Received by: (*Signature*)	Relinquished by: (*Signature*)	Date/Time	Received by: (*Signature*)
[illegible]	[illegible]				
Relinquished by: (*Signature*)	Date/Time	Received by: (*Signature*)	Relinquished by: (*Signature*)	Date/Time	Received by: (*Signature*)

Remarks

DISTRIBUTION: Original and Pink copies accompany sample shipment to laboratory. Pink copy retained by laboratory. Yellow copy retained by samplers.

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DYNAMAC CORPORATION

CHAIN OF CUSTODY RECORD

0266

PROJ. NO. 71959

PROJECT NAME [illegible]

SAMPLERS (Signature) [illegible]

Circle/add Parameters Desired
( ) - Indicates Separate Containers

Water/Wastewater: (Gal G (ext org. Pest) (EP) (herb)); 40 ml vial (VOA); 250 ml G (TOX); P (Bod. TSS. Cl. Fl. SO4 etc); ILG (pheno) (O&G) (pest); ILP (met. hard) (Toc. COD. N. P. etc); 0.5-ILP (S=); ½ gal or ILP (CN)

Soil/Sed. Slag: 8 oz G (ext org pest. herb) (met) (EP); 4 oz G (VOA); P or G (CN S= N P COD etc); 8 oz G (ext org pest herb VOA); 8 oz G (EP) (met CN S= FP) (FP BTU)

Waste

Misc

STA NO	DATE	TIME	COMP	GRAB	STATION LOCATION	NO. OF CONTAINERS	(Gal G (ext org. Pest) (EP) (herb))	REMARKS/TAG NUMBERS
[illegible]	[illegible]	[illegible]		Y	[illegible]	2	2	Cooler 1 [illegible] 0266
[illegible]	[illegible]	[illegible]		/	[illegible]	4	4	Cooler 2

3
4

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Remarks
[illegible]	[illegible]					
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	

DISTRIBUTION: Original and Pink copies accompany sample shipment to laboratory. Pink copy retained by laboratory. Yellow copy retained by samplers.

DYNAMAC CORPORATION

CHAIN OF CUSTODY RECORD

0267

PROJ. NO.	PROJECT NAME
91990	[illegible] AL

SAMPLERS (Signature): [illegible]

Circle/add Parameters Desired ( ) - Indicates Separate Containers

Water/Wastewater: (Gal G (ext org. Pest) (EP) (herb); 40 ml vial (VOA); 250 ml G (TOX); P (Bod, TSS, Cl, Fl, Sol, etc); ILG (pheno) (O&G) (pest); ILP (met, hard) (Toc, COD, N, P, etc); 0.5-ILP (S⁼); ½ gal or ILP (CN)

Soil/Sed/Sldg: 8 oz G (ext org. pest. herb) (met) (EP); 4 oz G (VOA); P or G (CN S⁼ N P COD etc); 8 oz G (ext org. pest. herb VOA); 8 oz G (EP) (met CN S⁼ FP) (FP BTU)

Waste

Misc

STA NO	DATE	TIME	COMP	GRAB	STATION LOCATION	NO. OF CONTAINERS	Gal G	40 ml vial	250 ml G	P	ILG	ILP	0.5-ILP	½ gal or ILP	REMARKS/TAG NUMBERS
E1	[illegible]	[illegible]		X	[illegible]	7	4	2		1		1		1	

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Remarks
[illegible]	[illegible]					0960
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	

DISTRIBUTION: Original and Pink copies accompany sample shipment to laboratory. Pink copy retained by laboratory. Yellow copy retained by samplers.

DYNAMAC CORPORATION

CHAIN OF CUSTODY RECORD

0077

PROJ. NO.: 92-0067

PROJECT NAME: Olin Chemical, McIntosh, AL

SAMPLERS (Signature): Rachel S. Cochran, PRC Environmental Management; Y. Gary Bonfield, PRC Environmental Management

Circle/add Parameters Desired ( ) - Indicates Separate Containers

Water/Wastewater: (Gal G (ext org Pest) (EP) (herb); 40 ml vial (VOA); 250 ml G (TOX); P (Bod TSS Cl. Fl. SO4 etc); ILG (pheno) (O&G) (pest); ILP (met. hard) (Toc COD N P etc); 0.5-ILP (S=); ½ gal or ILP (CN)

Soil/Sed/Sldg: 8 oz G (ext org pest herb; (met) (EP); 4 oz G (VOA); P or G (CN S= N P COD etc)

Waste: 8 oz G (ext org pest herb VOA); 8 oz G (EP) (met CN S= FP) (FP BTU)

Misc: Fish — VOA/BNA/PEST/METALS

STA NO.	DATE	TIME	COMP	GRAB	STATION LOCATION	NO. OF CONTAINERS	VOA/BNA/PEST/METALS (Fish)	REMARKS/TAG NUMBERS
LB-E1-01-WB	11/5/91	0940		X	LB-E1-01-WB	1	1	WHOLE FISH / TAG NO 2340
LB-E2-04-FI	11/5/91	1030		X	LB-E2-04-FI	1	1	FILET / TAG NO 2339
CC-G3-07-WB	11/7/91	1415		X	CC-G3-07-WB	1	1	WHOLE FISH / TAG NO. 2343
CC-G3-08-FI	11/7/91	1415		X	CC-G3-08-FI	1	1	FILET / TAG NO. 2344

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
R. Cochran	11/7/91 1615				
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)

Remarks: TCL/TAL ANALYSIS INCLUDING TOTAL MERCURY

0955

DISTRIBUTION: Original and Pink copies accompany sample shipment to laboratory. Pink copy retained by laboratory. Yellow copy retained by samplers.

FED-X AIRBILL# 0881682830

EPA

United States Environmental Protection Agency
Contract Laboratory Program Sample Management Office
PO Box 818 Alexandria, VA 22313
703-557-2490 FTS 557-2490

Organic Traffic Report & Chain of Custody Record

(For Organic CLP Analysis)

SAS No. (if applicable):

Case No.: 17444

1. Project Code	Account Code	2. Region No.	Sampling Co.	4. Date Shipped	Carrier
92-0116		IV	PRC		FEDERAL EXPRESS

Regional Information:

Sampler (Name): Gary Benfield

Airbill Number: 296686622 1

Non-Superfund Program:

Sampler Signature: Gary Benfield

5. Ship To: SAMPLE CUSTODIAN
ENVIROSYSTEMS, INC.
9200 RUMSEY ROAD
SUITE B-120
COLUMBIA, MD 21045

Site Name: Olin Chemicals

City, State: McIntosh, AL

Site Spill ID:

3. Type of Activity:

	Lead	Pre-Remedial	Remedial	Removal
SF			RIFS [X]	CLEM [ ]
PRP		PA [ ]	RD [ ]	REMA [ ]
ST		SSI [ ]	RA [ ]	REM [ ]
FED		LSI [ ]	O&M [ ]	OIL [ ]
			NPLD [ ]	UST [ ]

6. Preservative (Enter in Column D):
1. HCl
2. HNO3
3. $NaHSO_4$
4. H_2SO_4
5. Other (SAS) (Specify)
6. Ice only
N. Not preserved

7. Sample Description (Enter in Column A):
1. Surface Water
2. Ground Water
3. Leachate
4. Rinsate
5. Soil/Sediment
6. Oil (SAS)
7. Waste (SAS)
8. Other (SAS) (Specify)

CLP Sample Numbers (from labels)	A Enter # from Box 7	B Conc. Low Med High	C Sample Type: Comp/ Grab	D Preservative from Box 6	E RAS Analysis: VOA	BNA	Pest/ PCB	High ARO/ TOX	F Regional Specific Tracking Number or Tag Numbers	G Station Location Number	H Mo/Day/ Year/Time Sample Collection	I Sampler Initials	J Corresp. CLP Inorg. Samp. No.	K Designated Field QC
DCC83	2	LOW	GRAB	N	X				3214/3215	OM-DW-81	11/20/91 1400	SP	MDCC83	H2O Blank
7 84	2	LOW	GRAB	N	X				3216/3217	OM-DW-82	11/20/91 1600	GB	7 84	2 Spike
DCCB6	2	LOW	GRAB	N	X				3218/3219	OM-DW-16	11/20/91 1330	GB	MDCCB6	—
DCCB7	2	LOW	GRAB	N	X				3220/3221	OM-DW-40	11/20/91 1245	GB	MDCCB7	—
DCCB8	2	LOW	GRAB	N	X				3222/3223	OM-DW-22	11/21/91 0935	GB	MDCCB8	—
DCCB9	2	LOW	GRAB	N	X				3224/3225	OM-DW-26	11/20/91 1145	GB	MDCCB9	—

Shipment for Case complete? (Y/N): Y

Page 1 of 1

Sample used for a spike and/or duplicate: DCC83,84/OM-DW-81,82

Additional Sampler Signatures:

Chain of Custody Seal Number:

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Gary Benfield	11/21/91 1800				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Received by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks: Is custody seal intact? Y/N/none	

EPA Form 9110-2 (Rev. 5-91) Replaces EPA Form (2075-7), previous edition which may be used

DISTRIBUTION:
Blue - Region Copy Pink - SMO Copy White - Lab Copy Yellow - Lab Copy for Return to SMO

Split Samples [ ] Accepted (Signature)
[ ] Declined

0013705

EPA

United States Environmental Protection Agency
Contract Laboratory Program Sample Management Office
PO Box 818 Alexandria, VA 22313
703-557-2490 FTS 557-2490

Inorganic Traffic Report & Chain of Custody Record

(For Inorganic CLP Analysis)

SAS No. (if applicable):

Case No.: 17444

1. Project Code	Account Code	2. Region No.	Sampling Co.	4. Date Shipped	Carrier
92-0116		IV	PRC Environmental		FEDERAL EXPRESS

Regional Information:

Sampler (Name): Gary Bergen

Airbill Number: 29068866210

Non-Superfund Program

Sampler Signature: Gary Bergen

5. Ship To: SAMPLE CUSTODIAN
DATICHEM, INC.
960 WEST LEVOY DRIVE
SALT LAKE CITY, UT 84123

Site Name: Olin Chemicals

City, State: McIntosh, AL

Site Spill ID:

4. Type of Activity

	Lead	Pre-Remedial	Remedial	Removal
SF			RIFS [X]	CLEM
PRP		PA	RD	REMA
ST		SSI	RA	REM
FED		LSI	O&M	OIL
			NPLD	UST

6. Preservative (Enter in Column D)
1. HCl
2. HNO_3
3. NaOH
4. H_2SO_4
5. $K_2CR_2O_7$
6. Ice only
7. Other (SAS) (Specify)
N. Not preserved

7. Sample Description (Enter in Column A)
1. Surface Water
2. Ground Water
3. Leachate
4. Rinsate
5. Soil/Sediment
6. Oil (SAS)
7. Waste (SAS)
8. Other (SAS) (Specify)

CLP Sample Numbers (from labels)	A Enter # from Box 7	B Conc. Low Med High	C Sample Type: Comp./ Grab	D Preservative from Box 6	E - RAS Analysis: Metals Total	Metals Dissolved	Cyanide	Low Conc. Nitrate/ Nitrite	Low Conc. Fluoride	High pH	High Conductivity	F Regional Specific Tracking Number or Tag Numbers	G Station Location Number	H Mo/Day/ Year/Time Sample Collection	I Sampler Initials	J Corresp. CLP Org. Samp. No.	K Designated Field QC
MDCCB3	2	LOW	GRAB	2/3	X		X					3209/3210	OM-DW-81	11/20/91 1400	JB	DCCB3	H_2O Blank
84	2	LOW	GRAB	2/3	X		X					3211/3212	OM-DW-82	11/20/91 1000	JB	84	Spike
85	2	LOW	GRAB									3213	OM-DW-83	11/21/91 1500	JB		Dup
MDCCB6	2	LOW	GRAB	2/3	X		X					3201/3202	OM-DW-16	11/20/91 1330	JB	DCCB6	—
MDCCB7	2	LOW	GRAB	2/3	X		X					3203/3204	OM-DW-40	11/20/91 1245	JB	DCCB7	—
MDCCB8	2	LOW	GRAB	2/3	X		X					3205/3206	OM-DW-22	11/21/91 0935	JB	DCCB8	—
MDCCB9	2	LOW	GRAB	2/3	X		X					3207/3208	OM-DW-26	11/20/91 1145	JB	DCCB9	—

Shipment for Case complete? (Y/N): Y

Page 1 of 1

Sample used for a spike and/or duplicate: MDCCB3, 84, 85/OM-DW-81, 82, 83

Additional Sampler Signatures: —

Chain of Custody Seal Number:

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Gary Bergen	11/21/91 1700				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Received by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks: Is custody seal intact? Y/N/none	

EPA Form 9110-1 (Rev. 5-91) Replaces EPA Form (2075-6), previous edition which may be used

DISTRIBUTION:
Green - Region Copy Pink - SMO Copy White - Lab Copy Yellow - Lab Copy for Return to SMO

Split Samples: ☐ Accepted (Signature) ☐ Declined

Page 1 of 1

5 4 0957

1 013906

EPA

United States Environmental Protection Agency
Contract Laboratory Program Sample Management Office
PO Box 818 Alexandria, VA 22313
703-557-2490 FTS 557-2490

Specia[illegible]nalytical Service

Packing List/Chain of Custody

SAS No. 6908D

1. Project Code	Account Code	2. Region No.	Sampling Co.	4. Date Shipped	Carrier
92-0116		IV	PRC		FED/EX

Regional Information

Sampler (Name): GARY BENFIELD

Airbill Number: 088168284 1

Non-Superfund Program

Sampler Signature: Gary Benfield

5. Ship To: SAMPLE CUSTODIAN
ENVIRITE ANALYTICAL SERVICES
105 COMMERCIAL STREET
WATERTOWN, CT
06795

Site Name: Olin Chemicals

City, State: McIntosh, AL

Site Spill ID

5. Type of Activity

	Lead	Pre-Remedial	Remedial	Removal
SF			RIFS [X]	CLEM
PRP		PA	RD	REMA
ST		SSI	RA	REM
FED		LSI	O&M	OIL
			NPLD	UST

6. Sample Description (Enter in Column A)
1. Surface Water
2. Ground Water
3. Leachate
4. Rinsate
5. Soil/Sediment
6. Oil
7. Waste
8. Other (Specify)

7. Preservative (Enter in Column C)
1. HCl
2. HNO_3
3. $NAHSO_4$
4. H_2SO_4
5. NaOH
6. Other (SAS) (Specify)
7. Ice only
N. Not preserved

Sample Numbers	A Matrix Enter from Box 6	B Conc Low Med High	C Preservative Used from Box 7	D Analysis	E Sample used for spike and/or duplicate	F Regional Specific Tracking Number or Tag Number	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Sampler Initials	J Designated Field QC
~~1. SA0001~~	~~2~~									Eqpt H2O Blk
2. SD0002	2	LOW	N	PENTACHLOROBENZENE PCNB		3226/3227	OM-DW-16	11/20/91 1330	GB	—
3. SD0003	2	LOW	N	↓		3228/3229	OM-DW-40	11/20/91 1245	GB	—
4. SD0004	2	LOW	N	↓		3230/3231	OM-DW-22	11/21/91 0935	GB	—
5. SD0005	2	LOW	N	↓		3232/3233	OM-DW-26	11/20/91 1145	GB	
6.										
7.										
8.										
9.										
10.										

Shipment for SAS complete? (Y/N) Y

Did not send to lab shipment.

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Gary Benfield	11/21/91 1800				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Received by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks Is custody seal intact? Y/N/none	

Split Samples [ ] Accepted (Signature)
[ ] Declined

EPA Form 9110-3 (4-91)

DISTRIBUTION:
White - Region Copy Yellow - SMO Copy Pink - Lab Copy for Return to SMO Gold - Lab Copy

S 000724

EPA United States Environmental Protection Agency
Contract Laboratory Program Sample Management Office
PO Box 818 Alexandria, VA 22313
703-557-2490 FTS 557-2490

Special Analytical Service
Packing List/Chain of Custody

SAS No. 6908D

1. Project Code	Account Code	2. Region No.	Sampling Co.	4. Date Shipped	Carrier
92-0116		IV	PRC	/ /	FED/EX

Regional Information

Sampler (Name): GARY BENFIELD

Sampler Signature: Gary Benfield

Non-Superfund Program

Site Name

City, State | Site Spill ID

Airbill Number

5. Ship To: SAMPLE CUSTODIAN
ENVIRITE ANALYTICAL SERVICES
105 COMMERCIAL STREET
WATERTOWN, CT 06795

5. Type of Activity

	Lead	Pre-Remedial	Remedial	Removal
SF			RIFS	CLEM
PRP		PA	RD	REMA
ST		SSI	RA	REM
FED		LSI	O&M	OIL
			NPLD	UST

6. Sample Description (Enter in Column A)
1. Surface Water
2. Ground Water
3. Leachate
4. Rinsate
5. Soil/Sediment
6. Oil
7. Waste
8. Other (Specify)

7. Preservative (Enter in Column C)
1. HCl
2. HNO_3
3. $NAHSO_4$
4. H_2SO_4
5. NAOH
6. Other (SAS) (Specify)
7. Ice only
N. Not preserved

Sample Numbers	A Matrix Enter from Box 6	B Conc. Low Med High	C Preservative Used from Box 7	D Analysis	E Sample used for spike and/or duplicate	F Regional Specific Tracking Number or Tag Number	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Sampler Initials	J Designated Field QC
~~1. SD0001~~	~~2~~									Extra Not Used
2. SD0002	2	LOW	N	PENTACHLOROPHENOL PCNB		3226/3227	OM-DW-16	11/20/91 1330	GB	—
3. SD0003	2	LOW	N	↓		3228/3229	OM-DW-40	11/20/91 1245	GB	—
4. SD0004	2	LOW	N	↓		3230/3231	OM-DW-22	11/21/91 0935	GB	—
5. SD0005	2	LOW	N	↓		3232/3233	OM-DW-26	11/20/91 1145	GB	
6.										
7.										
8.										
9.										
10.										

Shipment for SAS complete? (Y/N) Y

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Gary Benfield	11/21/91 1800			/	
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
	/			/	
Received by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks Is custody seal intact? Y/N/none	
	/		/		

Split Samples ☐ Accepted (Signature)
☐ Declined

EPA Form 9110-3 (4-91)

DISTRIBUTION:
White - Region Copy Yellow - SMO Copy Pink - Lab Copy for Return to SMO Gold - Lab Copy

34 0550

EPA — Inorganic Traffic Report & Chain of Custody Record

United States Environmental Protection Agency
Contract Laboratory Program Sample Management Office
PO Box 818 Alexandria, VA 22313
703-557-2490 FTS 557-2490

(For Inorganic CLP Analysis)

SAS No. (if applicable):

Case No.: 1744

1. Project Code	Account Code	2. Region No.	Sampling Co.	4. Date Shipped	Carrier
92-0116		IV	PRC ENVIRONMENTAL		FEDERAL EXPRESS

Regional Information:

Sampler (Name): GARY BENFIELD

Sampler Signature: Gary Benfield

Airbill Number:

Non-Superfund Program:

Site Name:

City, State:

Site Spill ID:

4. Type of Activity

	Lead	Pre-Remedial	Remedial	Removal
SF			RIFS [X]	CLEM
PRP		PA	RD	REMA
ST		SSI	RA	REM
FED		LSI	O&M	OIL
			NPLD	UST

5. Ship To: SAMPLE CUSTODIAN
DATACHEM, INC.
960 WEST LEVOY DRIVE
SALT LAKE CITY, UT 84123

6. Preservative (Enter in Column D)
1. HCl
2. HNO3
3. NaOH
4. H_2SO_4
5. $K_2CR_2O_7$
6. Ice only
7. Other (SAS) (Specify)
N. Not preserved

7. Sample Description (Enter in Column A)
1. Surface Water
2. Ground Water
3. Leachate
4. Rinsate
5. Soil/Sediment
6. Oil (SAS)
7. Waste (SAS)
8. Other (SAS) (Specify)

CLP Sample Numbers (from labels)	A Enter # from Box 7	B Conc. Low Med High	C Sample Type: Comp/ Grab	D Preservative from Box 6	E - RAS Analysis: Metals Total	Metals Dissolved	Cyanide	Low Conc. Nitrate/ Nitrite	Low Conc. Fluoride	High pH	High Conductivity	F Regional Specific Tracking Number or Tag Numbers	G Station Location Number	H Mo/Day/ Year/Time Sample Collection	I Sampler Initials	J Corresp. CLP Org. Samp. No.	K Designated Field QC
MDCCB3	2	LOW	GRAB	2/3	X		X					3209/3210	OM-DW-81	11/20/91 1400	JB	DCCB3	H_2O BLANK
84	2	LOW	GRAB	2/3	X		X					3211/3212	OM-DW-82	11/20/91 1000	JB	84	SPIKE
85	2	LOW	GRAB									3213	OM-DW-83	11/21/91 1500	JB		DUP
MDCCB6	2	LOW	GRAB	2/3	X		X					3201/3202	OM-DW-16	11/20/91 1330	JB	DCCB6	—
MDCCB7	2	LOW	GRAB	2/3	X		X					3203/3204	OM-DW-40	11/20/91 1245	JB	DCCB7	—
MDCCB8	2	LOW	GRAB	2/3	X		X					3205/3206	OM-DW-22	11/21/91 0935	JB	DCCB8	—
MDCCB9	2	LOW	GRAB	2/3	X		X					3207/3208	OM-DW-26	11/20/91 1145	JB	DCCB9	—

Shipment for Case complete? (Y/N): Y

Page 1 of 1

Sample used for a spike and/or duplicate: MDCCB3, 84, 85/OM-DW-81, 82, 83

Additional Sampler Signatures:

Chain of Custody Seal Number:

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Gary Benfield	11/21/91 1700				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Received by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks: Is custody seal intact? Y/N/none	

EPA Form 9110-1 (Rev. 5-91) Replaces EPA Form (2075-6), previous edition which may be used.

DISTRIBUTION:
Green - Region Copy Pink - SMO Copy White - Lab Copy Yellow - Lab Copy for Return to SMO

Split Samples ☐ Accepted (Signature)
☐ Declined

Page 1

I 013906

EPA

United States Environmental Protection Agency
Contract Laboratory Program Sample Management Office
PO Box 818 Alexandria, VA 22313
703-557-2490 FTS 557-2490

Organic Traffic Report & Chain of Custody Record

(For Organic CLP Analysis)

Case No. (if applicable)

Case 1744

1. Project Code	Account Code	2. Region No.	Sampling Co.	4. Date Shipped	Carrier
92-0116		IV	PRC		FEDERAL EXPRESS

Regional Information	Sampler (Name)	Airbill Number
	GARY BENFIELD	

Non-Superfund Program	Sampler Signature	5. Ship To
	Gary Benfield	SAMPLE CUSTODIAN ENVIROSYSTEMS, INC. 9200 RUMSEY ROAD SUITE B-120 COLUMBIA, MD 21045

Site Name	3. Type of Activity	Remedial	Removal
	Lead / Pre-Remedial		
	SF	RIFS [X]	CLEM [ ]
	PRP [ ] PA [ ]	RD [ ]	REMA [ ]
	ST [ ] SSI [ ]	RA [ ]	REM [ ]
	FED [ ] LSI [ ]	O&M [ ]	OIL [ ]
		NPLD [ ]	UST [ ]

City, State	Site Spill ID

6. Preservative (Enter in Column D)
1. HCl
2. HNO_3
3. $NaHSO_4$
4. H_2SO_4
5. Other (SAS) (Specify)
6. Ice only
N. Not preserved

7. Sample Description (Enter in Column A)
1. Surface Water
2. Ground Water
3. Leachate
4. Rinsate
5. Soil/Sediment
6. Oil (SAS)
7. Waste (SAS)
8. Other (SAS) (Specify)

CLP Sample Numbers (from labels)	A Enter # from Box 7	B Conc. Low Med High	C Sample Type: Comp/ Grab	D Preservative from Box 6	E RAS Analysis VOA	BNA	Pest/ PCB	High ARO/ TOX	F Regional Specific Tracking Number or Tag Numbers	G Station Location Number	H Mo/Day/ Year/Time Sample Collection	I Sampler Initials	J Corresp. CLP Inorg. Samp. No.	K Designated Field QC
DCC83	2	LOW	GRAB	N	X				3214/3215	OM-DW-81	11/20/91 1400	GB	MDCC83	H_2O Blank
DCC84	2	LOW	GRAB	N	X				3216/3217	OM-DW-82	11/20/91 1000	GB	DCC84	MS Spike
DCC86	2	LOW	GRAB	N	X				3218/3219	OM-DW-16	11/20/91 1330	GB	MDCC86	
DCC87	2	LOW	GRAB	N	X				3220/3221	OM-DW-40	11/20/91 1245	GB	MDCC87	
DCC88	2	LOW	GRAB	N	X				3222/3223	OM-DW-22	11/21/91 0935	GB	MDCC88	
DCC89	2	LOW	GRAB	N	X				3224/3225	OM-DW-26	11/20/91 1145	GB	MDCC89	

Shipment for Case complete? (Y/N)	Page 1 of	Sample used for a spike and/or duplicate	Additional Sampler Signatures	Chain of Custody Seal Number
Y	1	DCC83,84/OM-DW-81,82		

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Gary Benfield	11/21/91 1800				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Received by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks Is custody seal intact? Y/N/none	

EPA Form 9110-2 (Rev. 5-91) Replaces EPA Form (2075-7), previous edition which may be used

DISTRIBUTION:
Blue - Region Copy Pink - SMO Copy White - Lab Copy Yellow - Lab Copy for Return to SMO

Split Samples [ ] Accepted (Signature)
[ ] Declined

0013705

34 0961

DYNAMAC CORPORATION

CHAIN OF CUSTODY RECORD

0272

PROJ. NO.	PROJECT NAME
92-0794	Olin Corporation, McIntosh, AL

SAMPLERS (Signature): Rachel S. Coch

Circle/add Parameters Desired; ( ) - Indicates Separate Containers

Water/Wastewater: (Gal G (ext org. Pest) (EP) (herb); 40 ml vial (VOA); 250 ml G (TOX); P (Bod, TSS, Cl, Fl, SO_4 etc); I.L.G (pheno) (O&G) (pest); I.L.P (met. herb) (Toc, COD, N, P etc); 0.5-I.L.P ($S^=$); ½ gal or I.L.P (CN)

Soil/Sed/Sldg: 8 oz G (ext org) (pest) (herb) (metals/EP); 4 oz G (VOA); P or G (CN) ($S^=$ N P COD etc) Metals

Waste: 8 oz G (ext org, pest, herb, VOA); 8 oz G (EP) (met CN $S^=$ FP) (FP BTU)

Misc

STA NO	DATE	TIME	COMP	GRAB	STATION LOCATION	NO OF CONTAINERS	8 oz G (ext org) (pest)	4 oz G (VOA)	P or G (CN) Metals	REMARKS/TAG NUMBERS
BSB110	8-13-92	1016		X	Strong Brine Pond	1			X	TAL Metals/cyanide Tag # 3423
BSB210	8-13-92	1730		X	Strong Brine Pond	2	X	X		Tag #s 3424, 3425

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Rachel S. Coch	8-13-92 1900				
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)

Remarks:
VOAs
BNA/Pesticides
TAL Metals + Cyanide

DISTRIBUTION: Original and Pink copies accompany sample shipment to laboratory. Pink copy retained by laboratory. Yellow copy retained by samplers.

FedX Airbill # 4599195553

DYNAMAC CORPORATION

CHAIN OF CUSTODY RECORD

0274

PROJ. NO.	PROJECT NAME
920794	Olin Corporation McIntosh, AL.

SAMPLERS (*Signature*): Shirleen Nunni

Circle/add Parameters Desired ( ) - Indicates Seperate Containers

Water/Wastewater | Soil/Sed/Sldg | Waste | Misc

STA NO.	DATE	TIME	COMP	GRAB	STATION LOCATION	NO. OF CONTAINERS	(Gal G (ext org. Pest) (EP) (herb)	40 ml vial (VOA)	250 ml G (TOX)	P (Bod TSS Cl Fl So4 etc)	R.G (pheno) (O&G) (pest)	R.P (met. hard) (Toc COD N P etc)	0.5-ILP (S=)	½ gal or ILP (CN)			8 oz G (ext org) (pes) (herb) (met) (EP)	4 oz G (VOA)	P or G (CN) S= N P COD etc)	8 oz G (ext org pest herb VOA) Metals	8 oz G (EP) (met CN S= FP) (FP BTU)	REMARKS/TAG NUMBERS
BOP148	8/17/92	1620		X	CPC old landfill Site	3											1	1	1			3431, 3430, 3429
BCP220	8/17/92	1600		X	CPC old Plant Site	3											1	1	1			3426, 3427, 3428

Relinquished by: (*Signature*)	Date/Time	Received by: (*Signature*)	Relinquished by: (*Signature*)	Date/Time	Received by: (*Signature*)
Shirleen Nunni	8/17/92 7:30pm				

Relinquished by: (*Signature*)	Date/Time	Received by: (*Signature*)	Relinquished by: (*Signature*)	Date/Time	Received by: (*Signature*)

Remarks: TCL and TAL

DISTRIBUTION: Original and Pink copies accompany sample shipment to laboratory. Pink copy retained by laboratory. Yellow copy retained by samplers.

Fed-X Airbill #4507178336

DYNAMAC
CORPORATION

CHAIN OF CUSTODY RECORD

0273

PROJ. NO.	PROJECT NAME
920794	Olin Caporation McIntosh, Al.

SAMPLERS (Signature): Rudel S. Cal

Circle/add Parameters Desired
( ) - Indicates Seperate Containers

Water/Wastewater | Soil/Sed/Slag | Waste | Misc

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	(Gal G (ext org. Pest) (EP) (herb)	40 ml vial (VOA)	250 ml G (TOX)	P (Bod, TSS, Cl, Fl, SO4, etc)	R,G (pheno) (O&G) (pest)	R,P (met, hard) (Toc, COD, N, P, etc)	0.5-ILP (S=)	½ gal or ILP (CN)			8 oz G (ext org (circled) pest (circled) herb) (met) (CN)	4 oz G (VOA)	P or G (CN (circled) S= N P COD etc)	8 oz G (ext org pest herb VOA)	8 oz G (EP) (met CN S= FP) (FP BTU)	REMARKS/TAG NUMBERS
BSL107	8/19/92	0940	X		Sanitary Landfill	3											1	1	1			3433, 3434, 3435
BSL110	8/19/92	0940	X		Sanitary Landfill	1													1			3436

Metals

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Remarks
Rudel S. Cal	8-19-92 1415					
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	

*DISTRIBUTION: Original and Pink copies accompany sample shipment to laboratory. Pink copy retained by laboratory. Yellow copy retained by samplers.

Fed X Air Bill #4507786202

DYNAMAC CORPORATION

CHAIN OF CUSTODY RECORD

0361

PROJ. NO.	PROJECT NAME
92-0822	Olin Corporation McIntosh, AL

SAMPLERS (Signature): Gary Banfield

Circle/add Parameters Desired ( ) - Indicates Separate Containers

Water/Wastewater: (Gal) G (ext org Pest) (EP) (herb); 40 ml vial (VOA); 250 ml G (TOX); P (Bod TSS Cl Fl SO4 etc); 1LG (pheno) (O&G) (pest); 1LP (met herd) (Toc COD N P etc); 0.5-1LP (S⁼); ½ gal or 1LP (CN)

Soil/Sed/Sldg: 8 oz G (ext org pes) herb) (metl) (EP); 4 oz G (VOA); P or G (CN) S⁼ N P COD etc) Metals

Waste: 8 oz G (ext org pest herb VOA); 8 oz G (EP) (met CN S⁼ FP) (FP BTU)

Misc

STA NO	DATE	TIME	COMP	GRAB	STATION LOCATION	NO. OF CONTAINERS	8 oz G (ext org pes) herb) (metl) (EP)	4 oz G (VOA)	P or G (CN) S⁼ N P COD etc) Metals	REMARKS/TAG NUMBERS
SGFP-25	8/30/92	1050		X	OU2/ SGFP-25	3	1	1	1	3437, 3438, 3439
~~SGFP-9~~	~~8/30/92~~			~~X~~	~~OU2/ SGFP-9~~	~~3~~	~~1~~	~~1~~	~~1~~	~~4003, 4005, 4004, 4005~~ GB
SGFP-19	8/31/92	1420		X	OU2/ SGFP-19	3	1	1	1	4006, 4007, 4008
SGFP-9	8/30/92	1800		X	OU2/ SGFP 9	3	1	1	1	4009, 4010, 4011
SGBG-01	9/2/92	1500		X	OU2/ SGBG-01	3	1	1	1	4012, 4013, 4014
SGTR-01	9/3/92	1330		X	OU2/ SGTR-01	3	1	1	1	4015, 4016, 4017

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Gary Banfield	9/1/92 1600	R. Pierce 9/1/92 1601	R. Pierce	9/3/92 1615	
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)

Remarks: TCL and TAL

DISTRIBUTION: Original and Pink copies accompany sample shipment to laboratory. Pink copy retained by laboratory. Yellow copy retained by samplers.

3 4 0 9 6 0